NEW

100 GAMES TO PLAY BEFORE YOU DIE

retro GAMER SPECIAL EDITION

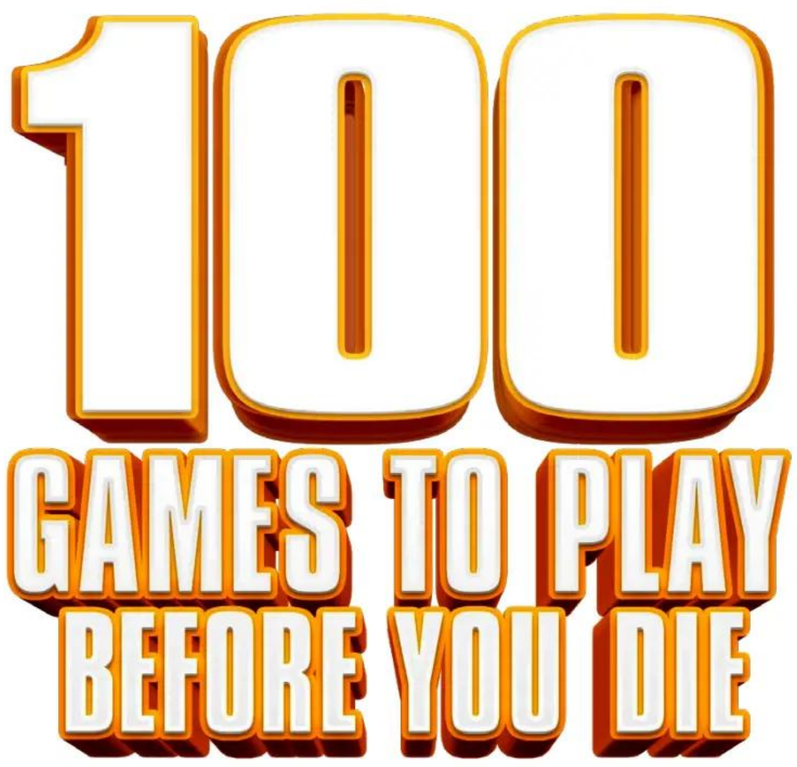
Digital Edition

FUTURE

SEVENTH EDITION

IN-DEPTH FEATURES • DEVELOPER ACCESS • BEHIND THE SCENES

Welcome to

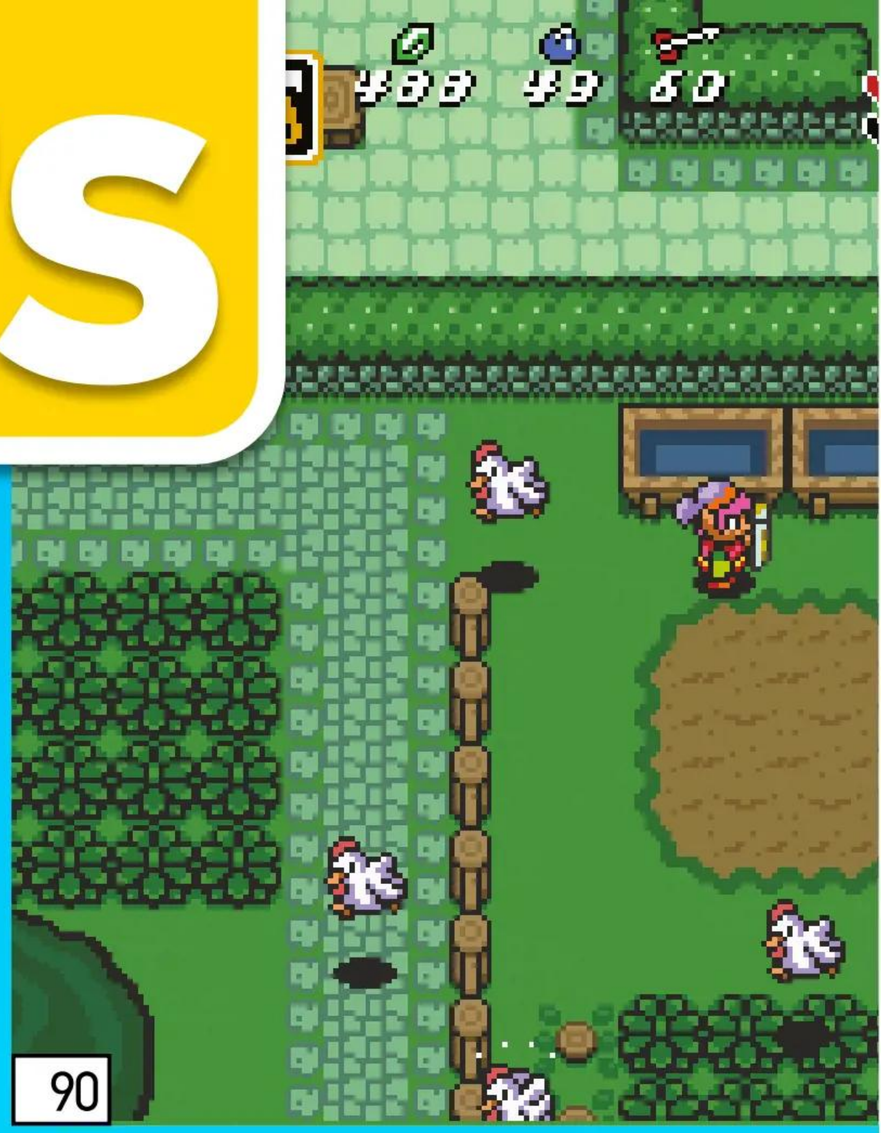


Discovering great videogames can be something of a minefield. There have been literally thousands of games released since the Seventies, so how on earth do you focus on the ones which are worth playing? Fortunately for you, we have the answer. Originally compiled for **Retro Gamer** by its own readers, the following tome contains the 100 games that you really should experience before you die. The games in question cover a wide range of genres, from platformers to racing games and range from 8-bit hits such as *Pac-Man* and *Manic Miner* to more recent classics like the excellent *Skyrim*. In short there's something in this book that should appeal to everyone, whether you're a fan of *Shenmue* or *Super Mario Kart*. But that's only part of the story. Once you've discovered the next 100 games you should be playing through (hopefully you'll have completed some of them already) you'll also be able to read in-depth articles on some of the biggest games featured inside, including the entire top ten. Enjoy.

CONTENTS

66

104



90

6 100 GAMES TO PLAY BEFORE YOU DIE
Our huge 42-page feature not only features 100 essential games to experience but also plenty of great developer insight from the people that made them

48 THE MAKING OF DEFENDER
Eugene Jarvis goes behind the scenes of his hectic shoot-'em-up for William Electronics

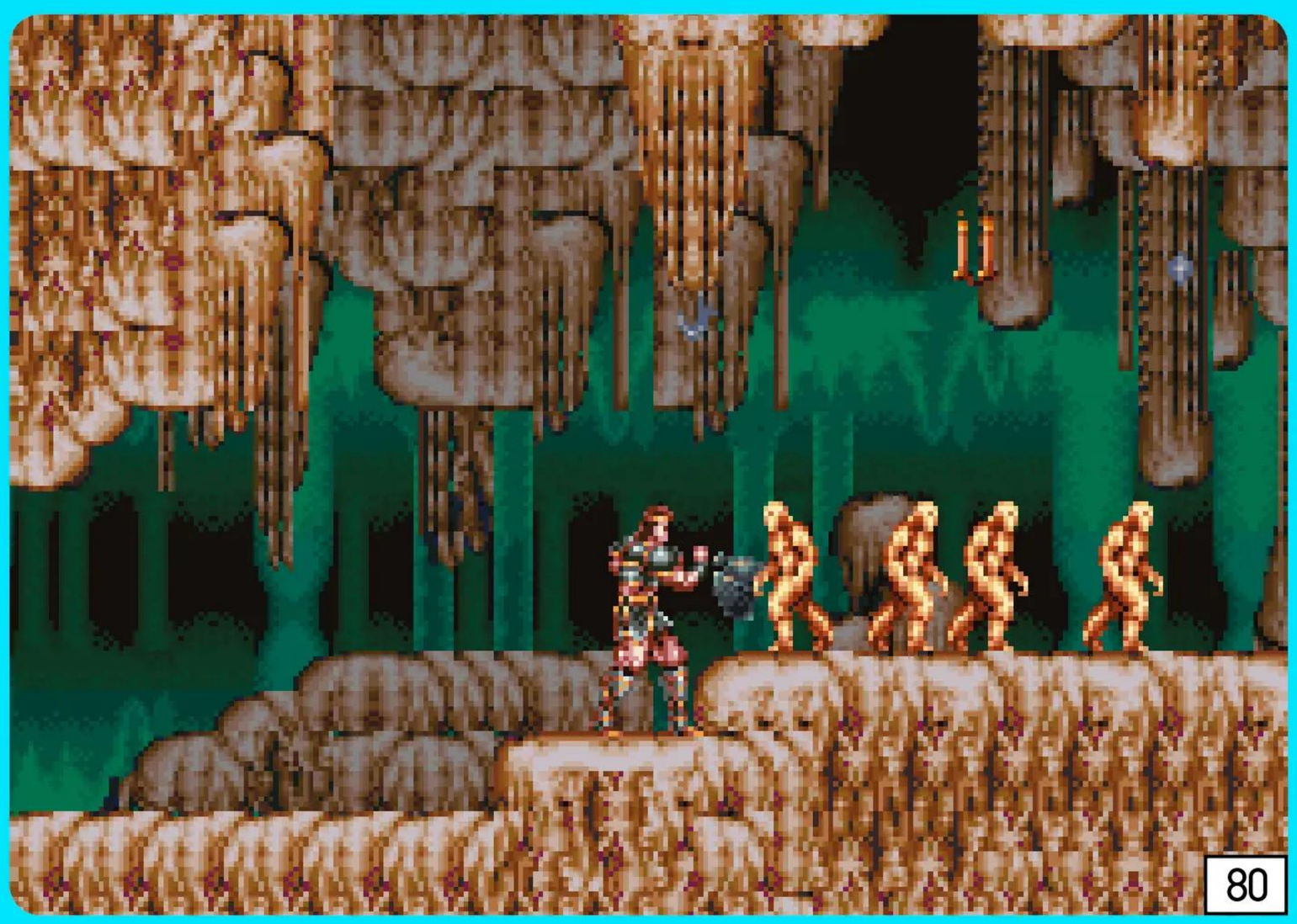
54 THE MAKING OF MANIC MINER
Matthew Smith plays through every level of his classic videogame and reveals the thought process behind each stage

60 THE MAKING OF SPEEDBALL II: BRUTAL DELUXE
Many consider *Speedball II* to be the Amiga's best sports game. Sensible Software's Jon Hare shows us how it came to be

66 THE LEGACY OF: STREET FIGHTER II
Why Capcom's fighter has beaten off all competition as the definitive fighting game

76 THE MAKING OF SONIC THE HEDGEHOG
Yuji Naka explains how *Super Mario Bros* influenced him to make his Mega Drive hit

48


80

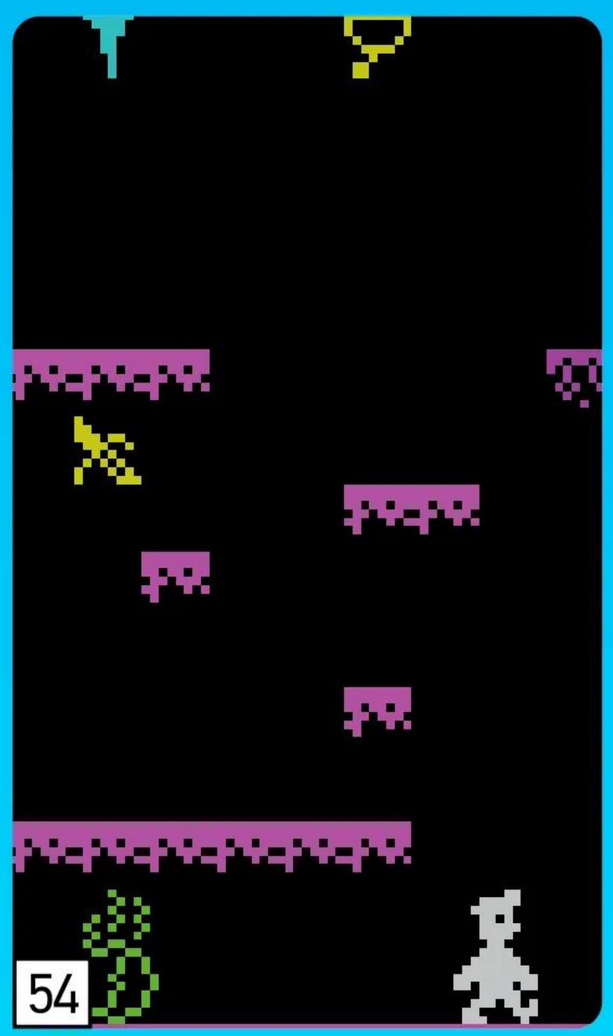
80 THE MAKING OF SUPER CASTLEVANIA IV
Director Masahiro Ueno divulges how he looked to the original NES *Castlevania* in order to create his epic sequel

86 THE MAKING OF STREETS OF RAGE
We take a look at how Sega aimed to take on Capcom's *Final Fight* with its very own stylish Mega Drive scrolling fighter

90 THE MAKING OF THE LEGEND OF ZELDA: A LINK TO THE PAST
Takashi Tezuka and Kensuke Tanabe reveal how they pushed boundaries to create their stunning SNES adventure

98 ULTIMATE GUIDE: DOOM
Everything you need to know about id Software's stunning first-person shooter, including its best home conversions

104 ULTIMATE GUIDE: SUPER MARIO 64
Mario's first 3D platformer changed gaming forever. Now learn the intricacies of Nintendo's masterpiece with this guide



110 THE MAKING OF FINAL FANTASY VII
Few RPGs left as big an impression as this epic PlayStation game. Yoshinori Kitase guides you through its creation

120 THE MAKING OF GOLDENEYE 007
The team behind the hit *James Bond*-themed Nintendo 64 first-person shooter illustrates how it crafted the 8-million seller

126 ULTIMATE GUIDE: METAL GEAR SOLID
Everything you need to know about Hideo Kojima's landmark cinematic stealth adventure

132 THE MAKING OF HALO: COMBAT EVOLVED
Discover how Bungie moved away from working on the Mac to create one of the Xbox's most important franchises

136 THE MAKING OF RESIDENT EVIL 4
Learn how Capcom reinvented both its long-running franchise and the entire survival horror genre

140 ULTIMATE GUIDE: ELDER SCROLLS V: SKYRIM
From mods to its many conversions, we investigate the greatest game in the long-running *Elder Scrolls* series

100 GAMES TO PLAY BEFORE YOU DIE

YOUR

DOOM

You're only on this planet for a short time, so you need to cram in as many games as possible. Our reader vote reveals the many classics that you really must play

Everyone loves a good list and Retro Gamer readers are no exception. All the way back in issue 150, we asked readers what the greatest games of all time were and we were amazed at the feedback. Of course, readers who have been with **Retro Gamer** since its inception will realise that a similar list first appeared in issue eight – many, many years ago now. Almost 20 years have flown by since then, which is an insane amount of time in videogames. When your original list appeared, the Xbox, PS2 and GameCube were all current-generation systems, now they're two generations old, with many readers considering them to be retro too.

We had thousands of votes from readers, covering all sorts of games, from *Pong* to newer releases like *Grand Theft Auto V* and *Dark Souls*, and we decided to create the ultimate list and we're now enhancing it for this essential edition. The original list in 2004 had readers voting for over 700 individual games across over 30 different formats. This time around that impressive record was smashed with over 1,400 games being voted for. Keeping with the stats, 61 games from the original list remain too, so we've shown you their previous positions so you can see how far they've climbed and dropped over the years. And remember, this is your list, made possible by your many, votes. You've only got a short time on this planet, so if you're going to only be able to play a certain amount of games then please make sure you play these first.

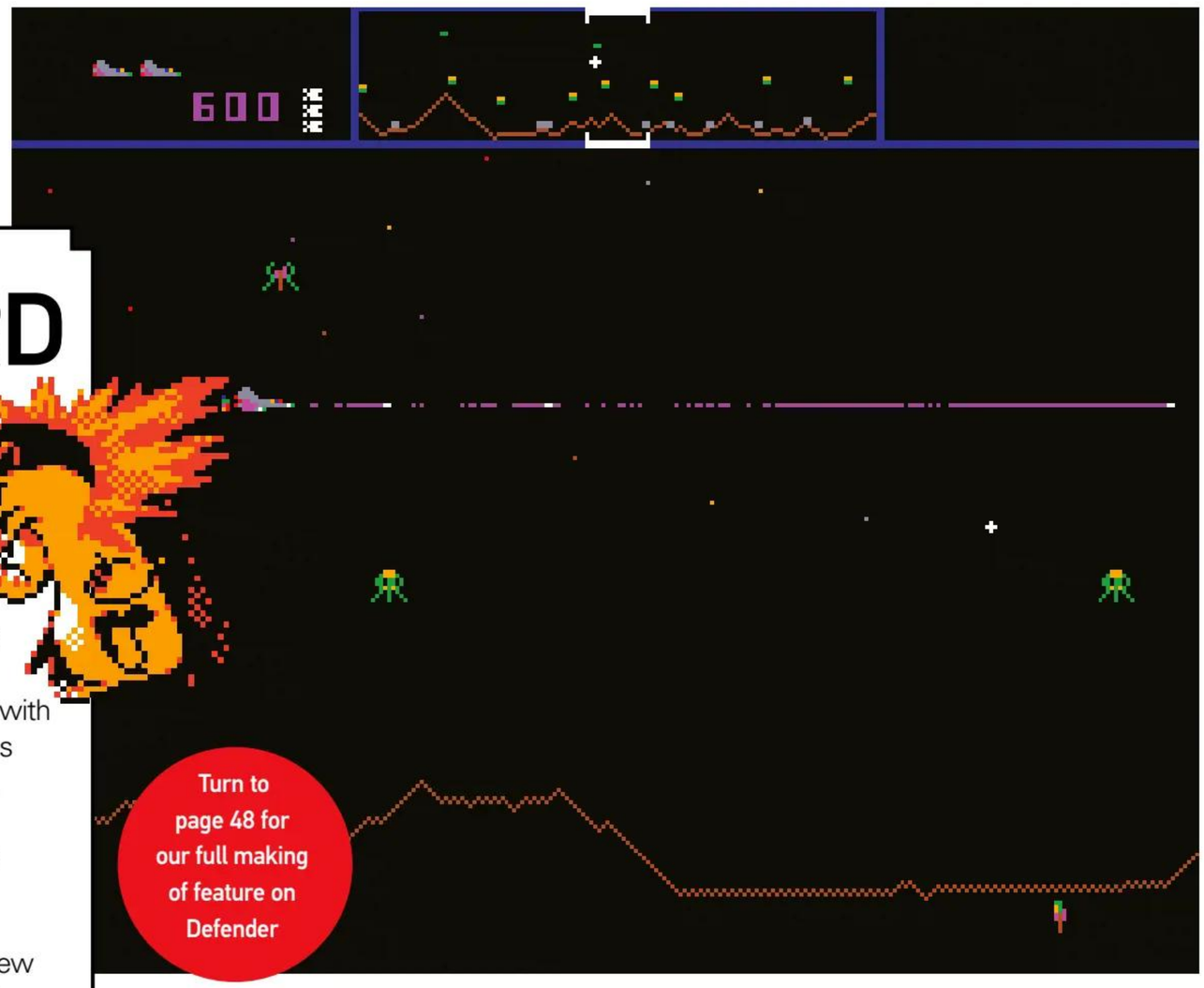
Do these classics make your final list? Read the feature in order to find out

THE GOLD STANDARD IN POKÉMON

100 Pokémon Gold & Silver

■ Year: 1999 ■ Platform: GBC

Whether you love or hate the innumerable console and handheld titles, cartoon and movie spin-offs or cuddly plush toys, there's no denying that Nintendo's *Pokémon* phenomenon has a significant place in videogaming history. Starting with *Pocket Monsters Red & Green* for the original Game Boy in 1996, the series has captured the imaginations of generations of gamers with its mix of role-playing, monster-hunting, training, battling and trading. With the second generation of *Pokémon* titles, *Gold And Silver*, released for the Game Boy in 1999, fans were able to get their hands on a new range of one hundred monsters, bringing the number of trainable Pokémon to over 250. *Gold And Silver* took place in a new location called Johto with players tasked with battling to become the region's new Pokémon Master. New features included a real-time day and night system, with some monsters only appearing at certain times, two new Pokémon types (Dark and Steel) and a much improved interface and inventory system. Another new mechanic was the ability to breed Pokémon from eggs, with the offspring inheriting qualities and battle techniques from its parents. *Pokémon Gold And Silver* were the games that began the transformation of the series into a multibillion dollar franchise for Nintendo, one that continues to this day.



Turn to page 48 for our full making of feature on Defender

EUGENE JARVIS GETS NOSTALGIC

99 Defender

■ Year: 1981 ■ Platform: Arcade

With *Defender* I wanted to do a game that broke new ground, to create the ultimate experience I craved as a gamer. The expanded universe of multiple scrolling screens provided both depth of gameplay, plus it was a real adrenaline rush to fly around the planet at insane speeds, rescuing and protecting the astronauts on the ground from the enemy assault. The elements of trajectory and collision, life and death, are very basic, challenging player's instincts in an intuitive way. A key element of the design, in addition to the violence, explosions, and killer graphics, was presenting the player with multiple goals and threats at all times. So not only do you have to engage the twitch centres of your brain but also a higher level of decision-making. This created the Total Brain Rush (TBR) that players craved! I remember when we launched the game people didn't know what to make of it because it had so many buttons. But I think that's what added to its long term appeal… In the hands of a *Defender* virtuoso the game can be amazing to experience. In the hands of a novice it is a nightmare of complexity!

98 Civilization IV

■ Year: 2005 ■ Platform: Various

A brilliant reimagining of the classic historical turn-based strategy game for modern platforms, *Civ IV* made Sid Meier's masterpiece more accessible than ever before, incorporating an all-new 3D engine and adding new features like fully promotable units, religions and a hugely enjoyable multiplayer mode.

97 Metal Gear Solid 3: Snake Eater

■ Year: 2004 ■ Platform: PS2

After *Sons Of Liberty*, this sequel returned to what made the series great, immersing players in a Cold War setting which saw Snake stalking through jungles relying on his wits, camo and his combat prowess.

96 Portal 2

■ Year: 2011 ■ Platform: Various

Featuring the welcome return of GLaDOS, one of gaming's greatest antagonists, this post-apocalyptic return to the Aperture Science Labs raised the bar in terms of graphics, environments and often hilarious dialogue courtesy of Stephen Merchant as paranoid robotic companion Wheatley.

95 Final Fantasy IX
■ Year: 2000 ■ Platform: PSone

Squaresoft pleased long-term *FF* fans with this last outing on the PSone, discarding the futurism of *VIII* and reverting to a medieval setting harking back to its much-loved classics on the Nintendo consoles.

94 Super Castlevania IV
■ Year: 1991 ■ Platform: SNES

Still one of the finest entries in Konami's vampire-slaying franchise, *Castlevania IV* was an excellent showcase for the SNES with its epic whip-flailing boss fights, fiendish level design and brilliant soundtrack.

Turn to page 80 for our full making of Super Castlevania IV

93 Advance Wars
■ Year: 2001 ■ Platform: GBA

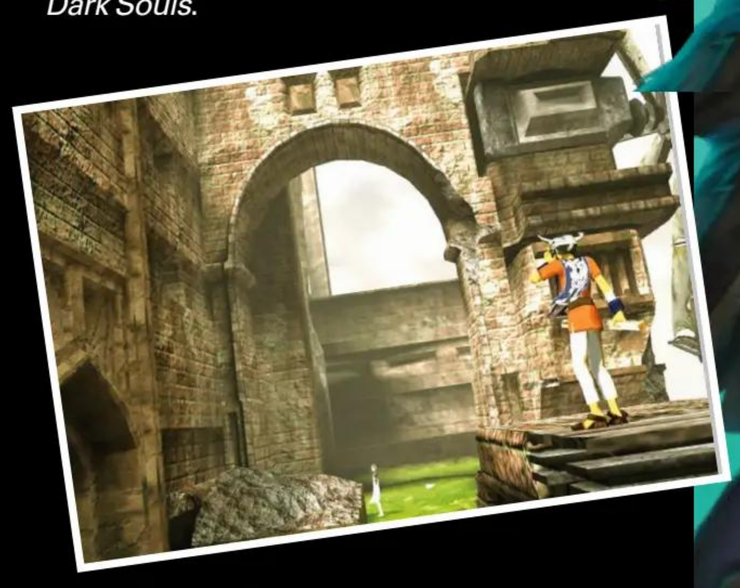
The perfect pocket-sized strategy game, *Advance Wars* was an essential purchase for GBA owners, and showed publishers that it wasn't just Japanese gamers that loved turn-based tactics.

92 Alex Kidd in Miracle World
■ Year: 1986 ■ Platform: Master System

Before Sonic, lovable monkey-boy Alex Kidd was Sega's unofficial mascot, and in many ways his colourful platform game debut is an even more impressive achievement than *Super Mario Bros.*.

91 Ico
■ Year: 2001 ■ Platform: PS2

A haunting and supremely stylish puzzle-platform adventure, *Ico* remains one of the most creative and touching fantasy game experiences of the past few decades, influencing the design of recent classics like *Dark Souls*.



WAR BY NUMBERS

90 World Of Warcraft
■ Year: 2004 ■ Platform: PC

It might not have been the first MMO, but it is arguably the most influential, leaving behind a legacy that has been copied by virtually everything in its wake. You'll never forget your first trip to Azeroth and one visit is never enough.

■ *World Of Warcraft* was the **fourth released game** set in the fantasy *Warcraft* universe.

■ It is officially the highest grossing videogame of all time, making in excess of **ten billion US dollars** by July 2012.

■ Developer Blizzard Entertainment still earns roughly **one billion US dollars** yearly with the game.

■ Over **12 million** physical boxed copies of the game have been sold since its launch in 2004.

■ In January 2014 Blizzard announced that over **100 million user accounts** had been generated in the game's lifetime.

■ Roughly **48 per cent** of the game's subscriber-base is in Asia. The second biggest player base is the USA with around **22 per cent**.

■ The realm of Azeroth in which the game is set is approximately **80 square miles**, about four times the size of Manhattan Island.

■ The Hunter and Death Knight are the most commonly used character classes in the game, both netting around **11 per cent** of users.

■ The most popular profession in Azeroth is mining, with **35.8 per cent** of players choosing to don a helmet and seek wealth underground.

■ **One in every five** *World Of Warcraft* players is female.

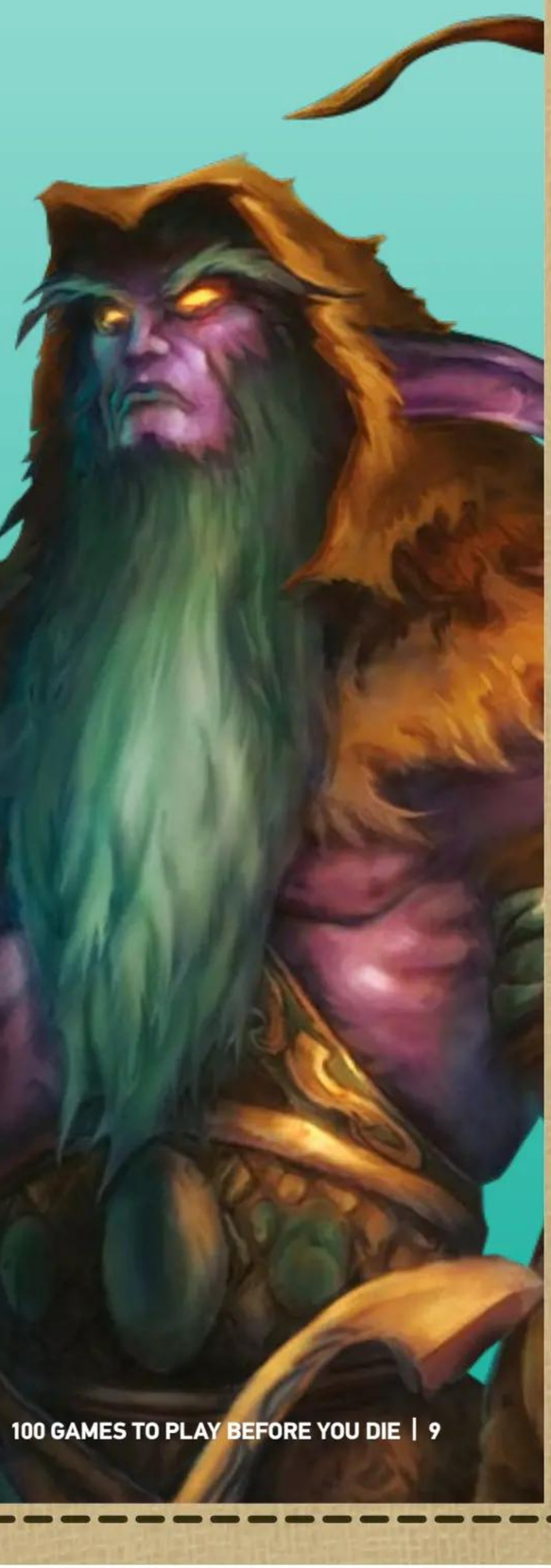
■ According to Blizzard's Frank Pearce the game is constructed from **5.5 million** lines of code.

■ In 2009 the game already contained **70,000 spells** and nearly **40,000 non-player characters**.

■ **Eight expansions** have been released for the game to date, and we're sure they will keep on coming.

■ One of the rarest mounts in the game is the Heavenly Onyx Cloud Serpent, with a drop chance of just **0.03 per cent**.

■ With over **100,000 pages**, WOWWiki is the largest community-run website of any videogame on the internet.



89 Streets Of Rage

■ Year: 1991 ■ Platform: Mega Drive

Mega Drive owners might not have had *Final Fight*, but they didn't need it – Sega's unashamed clone was every bit as good, thanks to tight gameplay and an amazing soundtrack.

Turn to page 86 for our full making of Mega Drive classic, Streets Of Rage

88 Quake

■ Year: 1996 ■ Platform: PC

Doom was a tough act to follow, but id Software managed it by creating a full-3D first-person shooter that became a leading light of the online multiplayer scene.

87 The Legend Of Zelda

■ Year: 1986 ■ Platform: NES

In an age of simple arcade action games, *Zelda* stood out by offering players an absorbing quest across a wide-open map. Plus, who could forget the oft-revisited musical accompaniment?

86 Final Fight

■ Year: 1989 ■ Platform: Arcade

Mike Haggar's quite direct, isn't he? Most mayors start a scheme to combat crime – Capcom's favourite politician walks down the street punching criminals right in the face.

85 Grand Theft Auto: San Andreas

■ Year: 2004 ■ Platform: PS2

The final *GTA* of its generation took the series to the early-Nineties LA, and added mechanics that allowed protagonist CJ to improve his fitness, appearance and more.

HOW SEGA MADE ITS ICONIC SHOOTER

84 Rez

■ Year: 2001 ■ Platform: Dreamcast

How did you decide on *Rez*'s abstract wireframe look?

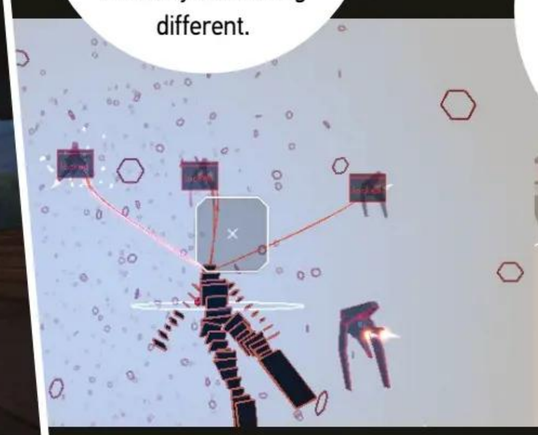
Jake Kazdal: I was out clubbing in Tokyo and on the wall a VJ was playing one of the early Winamp plug-ins, with the wireframe mesh being distorted by the music and pulsing different shapes and colours. I was awestruck, so I took video of it with my friend's camera, and showed it to [Shuji] Utsumi-San (now the CEO of Q Entertainment, but then head of Sega R&D) and Mizuguchi-san the next Monday, and it stuck. The wireframe look was born! We had been through many major look changes, so I wasn't sure this one was going to stick, either, but the team quickly took a liking to it.

Rez's boss battles were epic multi-stage encounters. How were these designed?

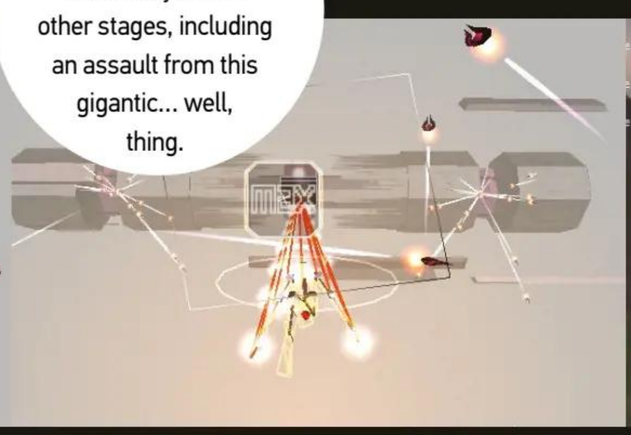
Osamu Kodera: The boss encounters were the result of a collaboration of the boss artist and myself. First he would create a simple storyboard, sort of like a four-frame comic strip.

YOUR GUIDE TO REZ'S LAST AREA

■ The level starts off even less structured than most, and unusually has a light background – this is clearly something different.



■ Attacks come far faster and more ferociously than in other stages, including an assault from this gigantic... well, thing.



■ As you move through each area, Katsumi Yokota's poem about evolution fills you in on the theme of the stage.

The artist and myself would then discuss the details and workflow. I'd then create a rough prototype, and if it seemed to work we'd continue our progress, but if it didn't work, we'd go back to step one. The biggest challenge was to incorporate and condense a variety of ideas into a short boss battle experience. All of the bosses were reconstructed at least three times.

Area 5 is a memorable final stage which differs noticeably from the earlier stages. What inspired it?

Katsumi Yokota: Area 5 differs from the other stages as it has a message incorporated into the design. Looking back now, I am a little embarrassed by the text that appears every time there is an area change. This was taken from a sort of poem that I wrote about the evolution of life. The backgrounds in each area were designed based on this text. I wrote this text as homage to the birth of life, the repeated process of mass extinctions, and the unending chain of life that creates such weird and wonderful lifeforms.

Looking back at *Rez*, how do you feel about the game?

Tetsuya Mizuguchi: Creatively speaking I was very happy, but from a business point of view I felt a little bit sad. I didn't expect too much at the time, but many people expected much bigger sales, like marketing people and business people. My feeling is that the reaction to *Rez* is bigger now than it was. I'm happy and surprised that people continue to talk about *Rez*.

■ You follow humanity into space, taking on what appears to be an abstract phoenix of some sort.

■ There's a boss rush which unnervingly questions your purpose in continuing, before the final boss – which we won't spoil for you.

HOW CAPCOM PERFECTED A CLASSIC

83 Resident Evil

■ Year: 2002 ■ Platform: GameCube

- It extensively redesigned puzzles and a new mansion layout means that your experience of the original game won't help you.
- The new re-reanimated Crimson Head Zombies provide a nasty surprise for all players, and fundamentally alter your approach to enemies.
- New defensive items give you more combat options when you're in a bind, and provide some uniquely gory enemy deaths.
- The indestructible test subject Lisa Trevor gave the game a brand new impact moment to close out the first disc.
- Fully redrawn visuals made the game look phenomenal in 2002, and held up superbly well in the 2015 HD re-release.

THE PERFECT GAME?

82 Super Mario Galaxy 2

■ Year: 2010 ■ Platform: Wii

Nintendo's sequel did that rare thing – it improved on its predecessor in every possible way. *SMG 2* remains a stunning platformer that we never tire of.

100%
The score we gave it in issue 79

1
Number of other games we've awarded a full 100%
(It was *Nex Machina*)

49
Galaxies to visit

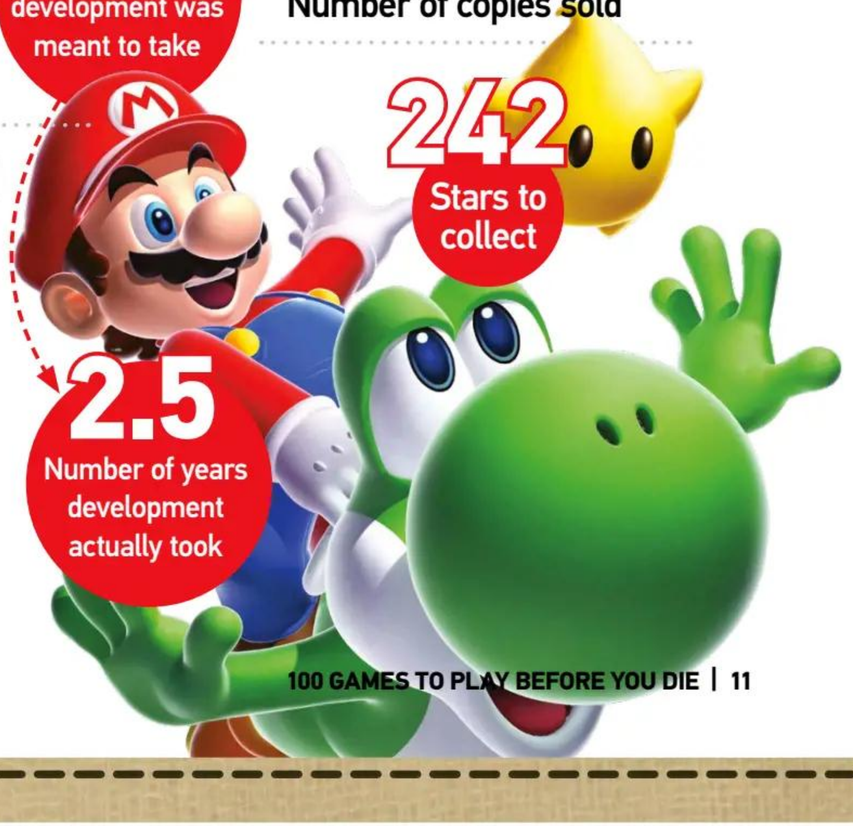
1
Number of years development was meant to take

6,720,000
Number of copies sold

97
The game's score on Metacritic

242
Stars to collect

2.5
Number of years development actually took



81 Turrican II
■ Year: 1991 ■ Platform: Various

This is as close as Dolph Lungren is ever going to get to a 'Greatest Games Ever' feature – the *Universal Soldier* movie tie-in reskin may not have made the list, but the amazing scrolling shooter on which it was based did. Good work, people.

80 Command & Conquer
■ Year: 1995 ■ Platform: PC

As if this seminal real-time strategy game was going to miss out on the action. A console release (complete with mouse support on the PlayStation, no less) won't have hurt its chances, and the live action cut-scenes have somehow managed to age worse than the game itself… though they're worth sitting through for the 'so bad it's good' factor.

79 Silent Hill 2
■ Year: 2001 ■ Platform: PS2

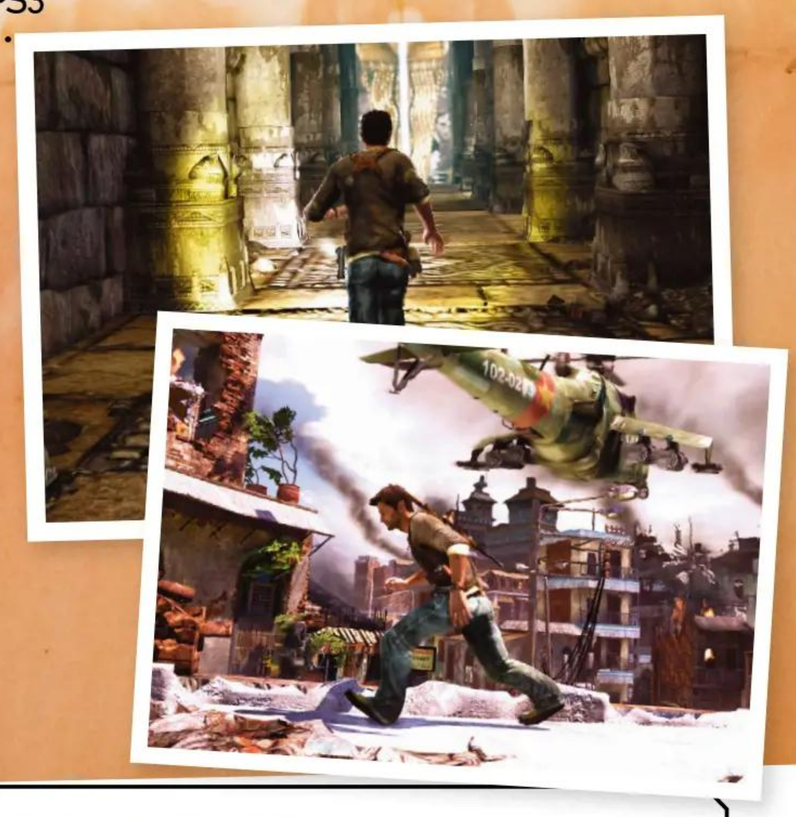
At a time where jump scares ruled, Konami managed to make a horror game which for psychological oppression. Perfect design and world-building mean this list would be worse were it not for the involvement of Harry Mason.

78 Kevin Bayliss on Donkey Kong Country
■ Year: 1994 ■ Platform: SNES

It's simply so memorable; the game played so well, and it was a perfect way to reintroduce *Donkey Kong*. The technique we used to create the 3D-looking sprites worked amazingly and it breathed new life into the SNES. I'll always be proud of the game and what we achieved.

BRINGING THE EXCITEMENT OF THE CINEMA TO YOUR CONSOLE

77 Uncharted 2
■ Year: 2009 ■ Platform: PS3



Few developers understand the importance of a strong opening quite like Naughty Dog clearly did in creating *Uncharted 2*'s prologue. Non-linear narrative allowed the team to open with the stunning set-piece that sees an injured Drake painstakingly climb dangling train carriages, before starting the game proper via a flashback that puts everything in perspective. While the original release stands up primarily as a solid proof-of-concept, the sequel remains one of the greatest action games ever made and it's telling of its quality that even *Tomb Raider* – a franchise which itself helped shape the likes of *Uncharted* – finds itself referring back to this gaming touchstone. Set-pieces are on point (the supernatural guff that kicks in later perhaps notwithstanding), platforming and gunplay are more than tight enough to carry the game but it's the cinematic nature of *Uncharted 2* that scores it a place in the history books, blurring the lines between Hollywood and Silicon Valley in an action gaming experience that is arguably still to be matched in terms of impact.

10 FOR 10

76 Final Fantasy X
■ Year: 2001 ■ Platform: PS2

- It was the first *FF* to be fully voiced… if perhaps not all that well.
- The Sphere Grid offered unparalleled customisation of your chosen party.
- Shifting to full-3D environments gave a real sense of exploration and discovery.
- Blitzball remains one of the single greatest mini-games of all time.
- The laughing scene is *supposed* to be awful. It's all about Tidus and Yuna's awkwardness, after all.
- Seymour's hair is as inexplicable today as it was at launch. It looks like antlers but apparently, it isn't.
- *Otherworld* actually evolved into a great piece of music when recorded by Uematsu's band, The Black Mages.
- Speaking of which, *FFX* is the last mainline game where Uematsu was the primary tunesmith.
- Post-game secrets like the Dark Aeons afforded the game even more longevity.
- Making Kimahri such as waste of space made it much easier to decide on a solid party.

SEGA'S MASCOT SEES RED

75 Sonic 3 & Knuckles
■ Year: 1994 ■ Platform: Mega Drive

It's no surprise to see make *Sonic & Knuckles* make the list here in some form – with its plug-through cartridge allowing for previous games to be modified as well as the main adventure as well, it's effectively four games in one. Well, assuming you count the ability to play the bonus stage by using a cart other than *Sonic 2* or *Sonic 3* as a separate game, anyway. With the main *Sonic & Knuckles* game showing a shift towards the slower pace and exploration focus that later games like *Sonic CD* would take further still, it's also no surprise that most votes for this came for *Sonic 3 & Knuckles* – both *Sonic 2* and *Sonic 3* had a noticeably faster pace and better flow to stages, plus the ability to glide and climb as Knuckles gives players the option for additional freedom and exploration as well. It's the best of both worlds, really. Even though *Sonic & Knuckles* itself may have been a more richly detailed game visually, going back to the older games via its novel plug-through option never felt like a step back and even today, those older games retain the same character and charm thanks largely to the excellent (if decidedly Nineties) art style.

MARK PACINI AND KENSUKE TANABE DISCUSS THE CREATION OF RETRO STUDIOS' HIT GAMECUBE GAME

74 Metroid Prime ■ Year: 2002 ■ Platform: GameCube

» Mark Pacini

» Kensuke Tanabe

» [GameCube] Ridley once again returns but this time he's cybernetically enhanced.

Why shift *Metroid* into a first-person adventure game?

MP: When *Metroid Prime* was released, no one else was concentrating on the exploration and platforming elements in a first-person game. We were dubbed as an FPA (first-person adventure), which to us meant that the core gameplay was not about shooting enemies but rather the immersive experience of being Samus and exploring the environment. We were able to differentiate our game by focusing on those aspects, and I think people felt it to be unique.

Is it true Shigeru Miyamoto was involved with *Metroid Prime*?

MP: Mr Miyamoto came to us with the idea of playing a *Metroid* game from the first-person perspective. He felt that the best way to play a 3D game where the character had a gun was from a first-person viewpoint. At first, we were not seeing his vision and we knew the fans would have the same initial reaction. However, as we started down this path, many unique gameplay opportunities came to light and we began to get very excited about the possibilities. If we were excited, *Metroid* fans probably would be as well.

What were your inspirations?

MP: Our main inspiration was *Super Metroid*. That's all you need. We also tried to preserve the essence of the *Metroid* experience in its move to 3D. It couldn't just be a 3D game starring Samus. It had to be *Metroid*. That was probably the most difficult part of the whole development process.

What can you tell us about the scanning mechanics?

KT: During the process of developing *Metroid Prime*, we asked Retro Studios to incorporate a visor system into the game in order to make it clearly new and differentiated from first-person shooter games. We set up the 'Scan Visor', which was a visor that the player used to scan necessary information, as one of plural visors, we thought this feature would help users who wanted to know more information about the setting by actively utilising, for example, a Pirate Log.

MC: The main reason for scanning was to give more motivation for the player to look around and explore the environment. It also helped remind the player to use their different visors throughout the game. As the series has continued, the scanning feature has played less of a role, but we still find it is very useful in terms of giving the player hints and information.

> **"The player was able to play the entire game without a break in the action"**
> Mark Pacini

What do you feel that specifically made *Metroid Prime* such an immersive experience?

MP: Probably the feature that really helped immerse the player was the absence of loading screens. The player was able to play the entire game without a break in the action.

Were you concerned *Metroid Prime* might be too difficult?

KT: These days, such games that a player can complete by just spending time playing without deeply thinking may tend to be welcomed more. From that perspective, *Metroid Prime* can be seen as a very tough game. However, Nintendo's game philosophy is that we hope users feel accomplishment and are impressed by thinking while playing the game. We also want players to feel their skills are improving.

» [GameCube] The area around Samus' ship serves as a central hub, other areas branch off from it.

» [GameCube] Some enemies had obvious weak spots, others you'd have to scan to find out.

5 THINGS THAT DEFINE METROID PRIME

USE OF 3D

■ The move to 3D was just as assured as Nintendo's earlier franchises jumping to 3D on the N64.

SCANNING

■ Scanning pretty much everything proved to be a clever way of delving into *Prime*'s backstory.

ENVIRONMENT EFFECTS

■ Steam, lightning strikes and other elements all display on Samus' visor.

MAP

■ The map for *Metroid Prime* was not only unique to the series, but was also a joy to use and incredibly helpful.

BOSSES

■ While some of the bosses are a little familiar, they're still immensely challenging to battle against.

73 The Elder Scrolls IV: Oblivion

■ Year: 2006 ■ Platform: Various

You don't realise how claustrophobic the opening of *Oblivion* is until you step out into an open wilderness that's full of possibilities and exciting quests. It's a living, breathing world that just begs to be explored, while the plot itself is a huge improvement over the earlier games in the series.

72 Mario Kart 64

■ Year: 1996 ■ Platform: N64

The second game in the series saw it move into party territory, due to the open tracks and the introduction of the spiny shell. While it's not our personal favourite *Mario Kart* game, there's no denying that the large number of tracks and fantastic multiplayer constantly kept you playing.

71 Red Dead Redemption

■ Year: 2010 ■ Platform: Various

Essentially it's just *GTA* on a horse, but look past those similarities and you'll find *RDR* to be an assured open world game. The story and characters are a cut above their *GTA* counterparts and it's supported by *Undead Nightmare*, one of the best pieces of DLC in recent memory.

70 Secret Of Mana

■ Year: 1993 ■ Platform: SNES

Square's *Mana* series came of age on the SNES, building upon the Game Boy adventure games to deliver a truly gripping adventure. While the combat is simple, the unique NPCS, assisting characters and fantastical setting keeps your attention. Little wonder it now fetches insane prices on eBay.

WHY THIS ZELDA IS DIFFERENT TO THE REST

69 The Legend Of Zelda: Majora's Mask

■ Year: 2000 ■ Platform: N64

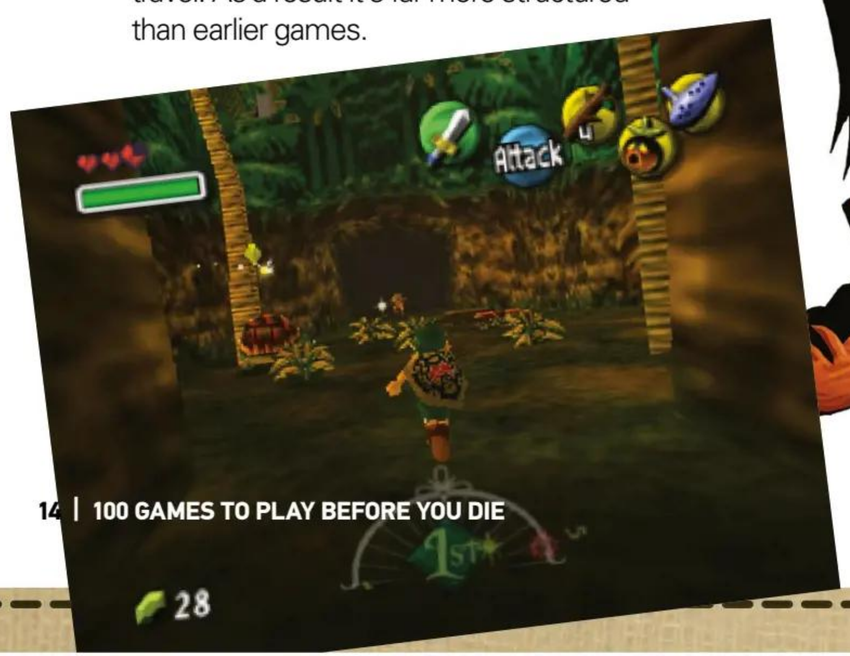
Three days...
Having to complete the game in just three days was radically different to past *Zelda* games and divides fans to this day.

Masks
There are 24 different masks, which give Link a range of unique abilities that include getting animals to follow him and attracting stray fairies.

Darkness
Its alternate universe allowed Nintendo to make a game that was much darker in tone to previous games.

Expansion Pak
The N64 expansion pack was critical, allowing Nintendo to improve the game's aesthetics, draw distance and add more in-game characters.

Complex narrative
Majora's Mask features an interesting, engaging story that revolves around time travel. As a result it's far more structured than earlier games.

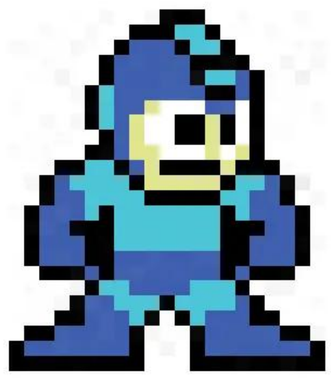


CAPCOM'S MEGA SEQUEL

68 Mega Man 2

■ Year: 1988 ■ Platform: NES

If ever one *Mega Man* was going to make your list it was going to be Capcom's sequel to the original. It not only massively improves on the numerous imbalances found in the first game, but sets the template for many later *Mega Man* games, too. It's still a painfully tough game in places, but the level design feels far tighter and fairer than the original *Mega Man*. It dumps the score system of the original game, gives you eight and not six bosses to fight (a trope that would remain for later games) and adds a useful password system. It's the best-selling game in the series and for good reason.

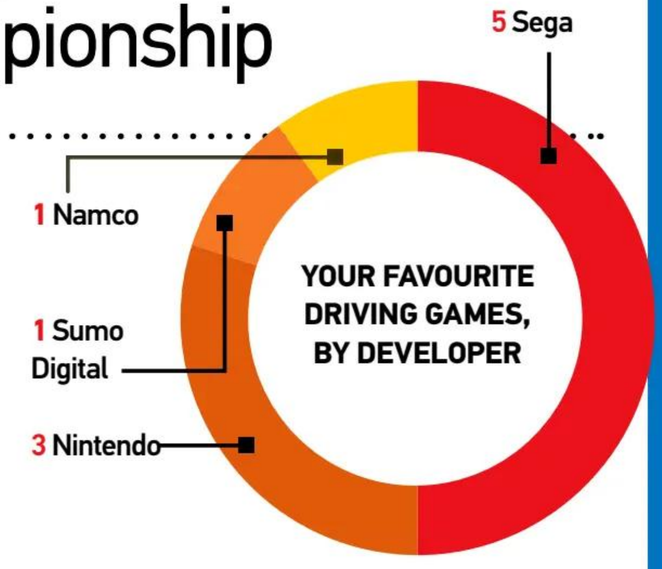


GAME OVER, YEAH!

67 Sega Rally Championship

■ Year: 1994 ■ Platform: Arcade

Sega Rally can be beaten in full, with all the secrets seen, in less than five minutes. However, the three (or four) tracks you'll play in that brief time are so well-designed that every turn becomes seared into your memory, as you fight the terrain to achieve the fastest possible time. You'll expect to play for five minutes and end up playing for years.



ANDREW BRAYBROOK GOES OVER THE RAINBOW

66 Rainbow Islands

■ Year: 1988 ■ Platform: NES

All of Graftgold's *Rainbow Islands* ports were impressive. Which is your personal favourite and why?

My favourite actually might have been the Sega Saturn version in enhanced graphics mode. We got to use a bit of semi-transparency on the rainbows, and added an extra back-layer of graphics, so we could be a bit creative. Taito quite liked what we did, and let us continue, whereas I believe it vetoed the *Bubble Bobble* equivalent. Our graphics artist Colin Seaman, led the graphics in just the right way to do a splendid job in keeping with the original style. Can't praise his contribution highly enough. I believe we got everything running at the proper 50 frames-per-second, which even the mighty Amiga was unable to do.

In terms of achievement, Gary Foreman did a great job on the C64 as there was a lot of movement going on, and despite colour attribute difficulties the Spectrum version also coped better than we thought it would.

How challenging was it to recreate the power of arcade games on 8 and 16-bit computers?

We were chasing the arcade in terms of colours and number of sprites. *Rainbow Islands* only had one layer of 8x8 pixel backgrounds, but then used another one for the sea rising. We had to be a bit inventive with simulating that. The sprites had more and different colours than the backgrounds, I reckon they had maybe 16 palettes of 16 colours available. We had to resolve that down to one palette of 16 colours on 16-bit, and less on the 8-bits.

Why do you think *Rainbow Islands* proved to be so popular with gamers?

A lot of design time had gone into the game at Taito, we could see that from the massive folder of documentation we received. It looked like up to two years of design work. Some of it had changed over the project so we couldn't always tell what made it into the final game. There's a lot in the bonuses and upgrades that isn't immediately obvious, but can be determined over time. Even the simplicity of getting the gem colour that you want, it's so obvious when you know how.

What are your thoughts on *Rainbow Island*'s play mechanics?

I learned a lot from how the bonuses worked, and how the meanies all did or didn't interact with the background. Presentation is excellent, the 'GOAL IN!' sequence, for example, is all very grand and well thought out. We had enough documentation to make our conversions very accurate in terms of how they played, the look would vary depending on the hardware. There're also three different endings. We thought there were only two, but we had some graphics we hadn't seen, and imagine our surprise when we discovered the three islands that popped up. Nobody knew they were there and we had quoted for seven islands. The extra three islands lead to the third ending but are as big as the first seven and we had less graphics supplied. It would have taken us a lot more time. Even when we got the job for the Saturn, PlayStation and PC versions we were only asked to convert the first seven.

UF-WHOA!

65 UFO: Enemy Unknown

■ Year: 1994 ■ Platform: PC

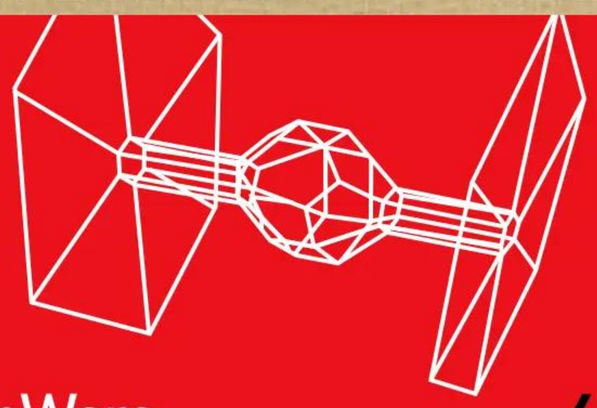
The isometric viewpoint of *UFO: Enemy Unknown* should make you feel less connected to your troops. Well, it doesn't – we're still torn up whenever we lose a veteran to a tactical slip-up and a lucky alien shot. Turn-based strategy is rarely better than this.

PLATFORM HEAVEN

64 Banjo-Kazooie

■ Year: 1998 ■ Platform: N64

We're not surprised to see *Banjo* chart so high. Alongside *Super Mario 64*, it rates as not only one of the best platformers upon the system, but also the genre too. Rare created an imaginative, wonderous world and tied it to two ridiculously lovable characters. Little wonder there's so much interest in spiritual follow-up *Yooka-Laylee*.



63 Star Wars

■ Year: 1983 ■ Platform: Arcade

Be Luke Skywalker? Check. Use the power of the force? Sure, you got it. Blow up the Death Star? But of course! Atari's classic vector coin-op perfectly captured the X-wing fantasies of just about every human being on the planet in 1983, and it still does.

62 Civilization

■ Year: 1991 ■ Platform: PC

Are you up to the challenge of building an empire upon which the sun never sets? Sid Meier's turn-based strategy game was as influential as it was enjoyable, thanks to the challenge of taking your empire from 4000 BC to the near future.

61 Portal

■ Year: 2007 ■ Platform: PC

This highly innovative first-person puzzle game challenges you to think in full 3D, thanks to its innovative multi-purpose gun. With singing AIs, companion cubes and the promise of cake, this short adventure lingers in the memory for years after completion.

PLAY'S LUKE ALBIGÉS PUTS EVERYTHING ON THE LINE

60 Mass Effect 2

■ Year: 2010 ■ Platform: Various

How did Bioware improve on *Mass Effect*?

To be honest, I think the original actually did a better job than *Mass Effect 2* in terms of lore-building... but that's only because the second game barely had to worry about that side of things. BioWare did *such* a good job of creating a sci-fi universe with the series opener that *Mass Effect 2* had far more space and freedom to grow as a game, something it absolutely did by pushing every other aspect to new heights.

Why is it considered the best game in the series?

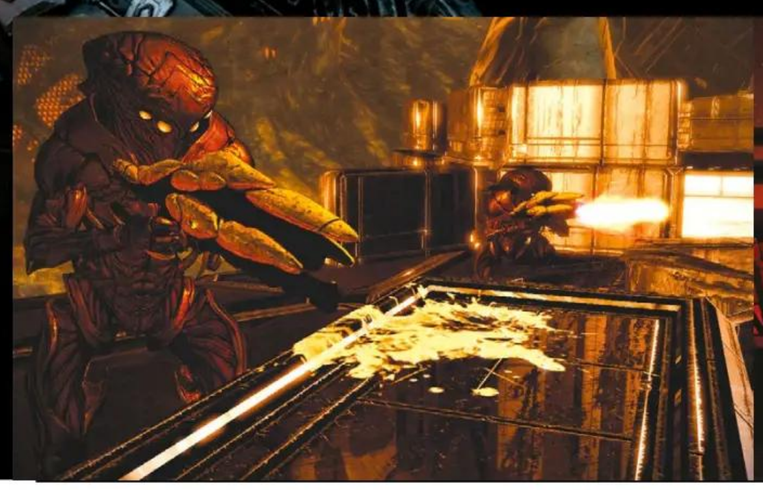
Of the three, it strikes by far the best balance between narrative and action. The first game's aforementioned emphasis on lore made it feel more like an introduction than a game after having played the sequel, while *Mass Effect 3*'s action bent and ludicrous conclusion felt like a waste of all that hard work. To this day, I still can't believe it actually gave players the option to forgo story altogether...

Was losing the Mako a good idea?

Absolutely. Surface exploration was underdeveloped and getting it right would have required a significant redistribution of the resources *Mass Effect 2* clearly put to better use elsewhere. I certainly didn't miss it at all.

What made *Mass Effect 2*'s climax so good?

It's a combination of things, really. The so-called 'Suicide Mission' was expertly set up to feel like a last resort, one final push from which some (or all) of the crew might not return. Pair that with the fact that it comes after spending hours building relationships with those characters and their potential expendability becomes all the more powerful. Even when you were in control, clever design left a lingering fear that something could still go wrong at any turn.



INFLUENCER 001 REPORTING

59 Paradroid

■ Year: 1985 ■ Platform: Various

Andrew Braybrook's stunning shoot-'em-up remains one of the best games on the Commodore 64. It's perfectly balanced, has clever, deliberate gameplay and features a host of different robots to attack and master.

001
The number of the Influence Devices you control

999
Controlling this unstable droid is the ultimate achievement

97%
The score Zzap!64 awarded the game

8
The number of ships in the game

#1
Its position in our Top 25 C64 Games feature

50%
The speed increase to Paradroid Competition Edition

KEN SUGIMORI AND JUNICHI MASUDA TALK POKEMON... IT'S SUPER EFFECTIVE!

58 Pokémon Red & Blue

■ Year: 1996 ■ Platform: Game Boy

Pokémon Red And Blue is one of just two games which originated on the monochrome Game Boy to make this list!

Ken Sugimori

Junichi Masuda

Pokémon *Red And Blue* spent quite a long time in development – why was that?

Sugimori: It took about six years from the start of the concept to execution. We started the project right after *Quinty* was released and initially, we were aiming to have about fifty Pokémon. But every year, the technology improved so while it started at 50, by the end of about the fourth year we realised that we could do about 150 *Pokémon*. In that sense, I suppose we didn't really have a set target number – it just depended on the technology we had at the time.

Why include different Pokémon types?

Sugimori: By adding even one more type, it definitely makes the gameplay more complicated. So when we did that we had to really look into the battle balance – with new moves, there's an almost infinite combination. If we can solve that problem, we can always add more types – it's not impossible.

The series' most distinguishing feature is its emphasis on multiplayer gaming, which is unusual for RPGs. Why did you focus on this?

Masuda: People say that when you play videogames, you're usually playing on your own, so we wanted to create an experience where you can play the game but still play together with friends at the same time and all have fun. That was the basic idea I had in my mind when working on this game. You can battle together and trade with friends and family – you could even take your game to a store, find someone you never met and ask them to trade *Pokémon* or play together.

Why do you feel that *Pokémon* remains so successful after so many years?

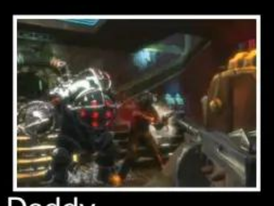
Sugimori: At its simplest, it boils down to the fact that it's easy to understand and it has incredible diversity. The characters used today in the TV show or in the movies are based on the ones we create for the games and through its features, its abilities and its shape, you can quite easily get an idea of what kind of Pokémon it is. There's a great mix of cool and cute monsters, making it easy for the audience to pick their own favourite.

EXCLUSIVE TO

Pokémon Red	Pokémon Blue
Ekans	Sandshrew
Arbok	Sandslash
Oddish	Vulpix
Gloom	Ninetales
Vileplume	Meowth
Mankey	Persian
Primeape	Bellsprout
Growlithe	Weepinbell
Arcanine	Victreebell
Scyther	Magmar
Electabuzz	Pinsir

57 Bioshock

■ Year: 2007 ■ Platform: Various



This FPS featured one of gaming's greatest worlds in the underwater city of Rapture, and offered memorable gameplay too thanks to terrifying Big Daddy encounters and plasmid powers.

56 Dungeon Master

■ Year: 1987 ■ Platform: Atari ST

Real-time exploration made the corridors of *Dungeon Master* a dangerous place to be – safe places were rare indeed. Other developers took years to catch up with this phenomenal RPG.

55 Jet Set Willy

■ Year: 1984 ■ Platform: Various

It might have needed a couple of pokes and a Quirkafleeg to make it work properly, but the stunning sequel to *Manic Miner* is one of the most iconic platformers of the 8-bit era.

54 Dark Souls

■ Year: 2011 ■ Platform: Various

If you think that modern videogames are a bit soft, you owe it to yourself to play *Dark Souls*. From Software's brutal RPG is a compelling experience, blending strong design with an unrelenting – but rewarding – difficulty curve.

53 Shadow Of The Colossus

■ Year: 2005 ■ Platform: PS2

Essentially a series of battles against colossal bosses, this action-adventure game maintains a solemn atmosphere thanks to its barren setting and its plot. Victory has never been quite so bittersweet.

STRONG THE FORCE IS WITH GREG ZESCHUK

52 Star Wars: Knights Of The Old Republic

■ Year: 2003 ■ Platform: Xbox

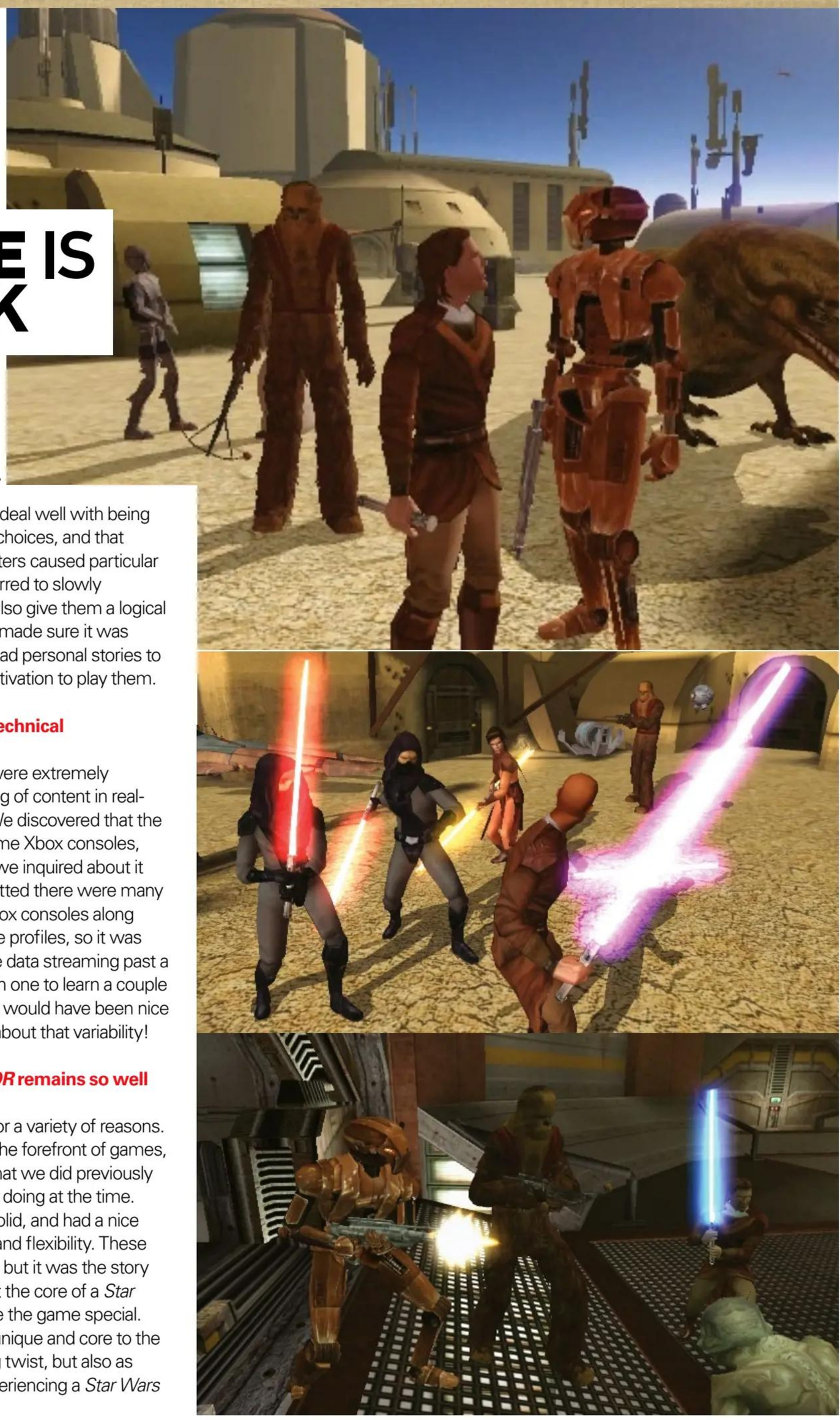
How much freedom did you have when creating *KOTOR*?
We had a great relationship with LucasArts, so that was the foundation of the freedom we had with *KOTOR*. There was a lot of mutual trust. We also decided to pursue the period thousands of years prior to the movies as the setting for the game because we knew that any games set around the movies had a lot more scrutiny. We had the choice of that period, or the time just after *Episode V*. In the development of the game itself we had a lot of freedom in deciding what to create and how it would be made. We worked with the production team at LucasArts and ran everything past them, but we took the lead on the development.

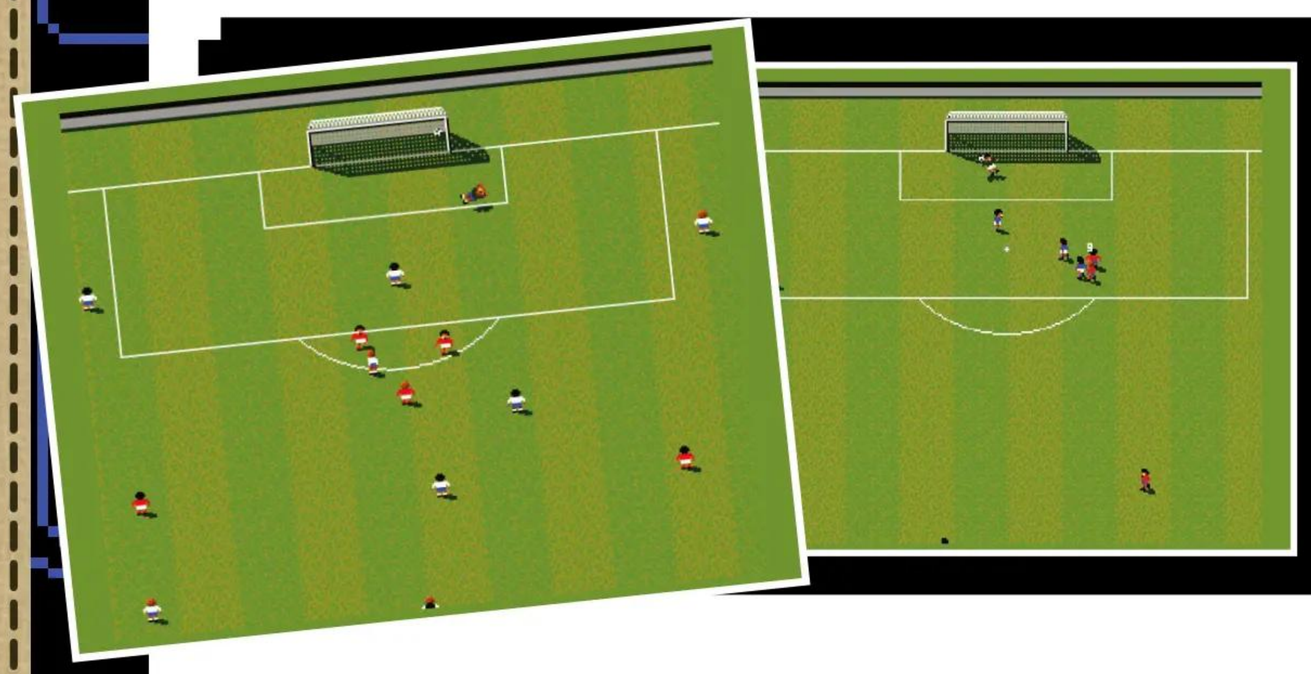
How important was it to move away from the earlier films?
We wanted to be unique and special, as well as having good development flexibility, so it was very important to be separate from the movies. Thus the Old Republic period choice. We wanted to create an environment for *KOTOR* that was still reminiscent of the movies, but also fit well into a period thousands of years before them. Ship and character designs should have some similarity, but be clear precursors to what people are familiar with from the films. However they still had to stand alone without being just a few tweaks on the later designs.

Why did you slowly introduce new playable characters?
We had a few common tactics that we have built upon over the years at BioWare. We learned that players didn't deal well with being presented with too many choices, and that choices in playable characters caused particular consternation so we preferred to slowly introduce characters and also give them a logical reason for being. We also made sure it was clear that each character had personal stories to explore so players had motivation to play them.

What was the biggest technical challenge you faced?
On the Xbox version we were extremely aggressive in the streaming of content in real-time over the disc drive. We discovered that the game ran smoothly on some Xbox consoles, and not on others. When we inquired about it Microsoft reluctantly admitted there were many different drives used in Xbox consoles along with different performance profiles, so it was clear we were pushing the data streaming past a safe limit. That was a harsh one to learn a couple months before release... It would have been nice if Microsoft was up-front about that variability!

Why do you think *KOTOR* remains so well regarded by RPG fans?
I'd say *KOTOR* was a hit for a variety of reasons. Technically it was right at the forefront of games, and a big advance over what we did previously and what other folks were doing at the time. The RPG systems were solid, and had a nice balance of customisation and flexibility. These elements were important, but it was the story and experience of being at the core of a *Star Wars* adventure that made the game special. We made the player feel unique and core to the world, especially at the big twist, but also as though he or she was experiencing a *Star Wars* movie from the inside.





GOOOOOOOAL!

51 Sensible Soccer

■ Year: 1992 ■ Platform: Various

If you loved football in the Nineties, you're likely to remember some very distinctive oddities: ludicrous banana shots, vowel-switched players like 'Peul Gescoigne' and a match-up screen which mysteriously featured the same two players no matter which countries were playing. Yes, *Sensible Soccer* was a little bit odd, but by pulling back the viewpoint and making passing more intuitive, it captured the hearts of a public previously enthralled by the likes of *Kick Off 2*.

50 Doom II

■ Year: 1994 ■ Platform: PC

Doom II is a sequel that plays it straight, delivering bigger levels, better multiplayer, more monsters and a Super Shotgun for good measure. Given how good *Doom* was, that's no bad thing – everyone else was still catching up, after all.

49 Deus Ex

■ Year: 2000 ■ Platform: Various

At the turn of the century, Ion Storm's classic was at the forefront of PC gaming thanks to an incredible blend of RPG and first-person shooting gameplay. Two sequels have come along, but neither has had the lasting impact of the original.

48 Robotron 2084

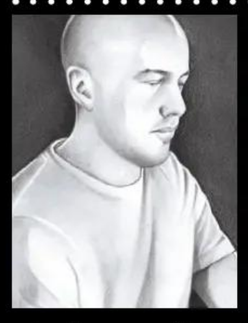
■ Year: 1982 ■ Platform: Arcade

How many Xbox Live Arcade games pinched their twin-stick controls from *Robotron*? Quite a few, but with good reason – Eugene Jarvis and Larry DeMar created one of the finest twitch shoot-'em-up experiences known to mankind.

JON STOODLEY THE PERFECT PLAYER

47 Pac-Man

■ Year: 1980 ■ Platform: Arcade



When did *Pac-Man* first get your attention?

I was a devoted *Berzerk* player in my local arcade, Las Vegas in Liverpool. It was early-1981 when it had a delivery whilst I was playing, and two huge machines were wheeled onto the arcade floor. They were twin screen *Pac-Man* cabs and everyone looked in amazement, including me! It wasn't until later on that year that I would accompany my brother Peter (who by then was a 100k player) to a game of 'doubles' and it just clicked. Within a few weeks I had a six-figure score.

What is it about *Pac-Man* that makes it such a great game?

Without doubt its diversity. It seems to appeal to absolutely everyone, regardless of age or sex. Even if you don't particularly score big at *Pac-Man*, the game play is both very addictive and full of character. He was, after all, the first real character in a videogame and instead of just being a 'ship' in a shoot-'em-up, you were a virtual *Pac-Man* being hunted by ghosts. I guess he also responsible for spawning the phrase, 'I'm on my last man.'

Why do you think *Pac-Man* is so popular with high scorers?

I think the 'split-screen' and the 'perfect game' of *Pac-Man* will always be a huge draw for high score interest. The myth of the split-screen and unlike more commonly known 'kill screens', *Pac-Man* allows you to play your lives out. Perfect *Pac-Man* sometimes takes in excess of six hours. Never losing a life, never missing a blue ghost or bonus and never making a mistake makes the achievement of 'perfect *Pac-Man*' unique in classic gaming. It's a fantastically simple game on the surface, but underneath that surface it's incredibly tough with many layers of gameplay.

What's your favourite aspect of *Pac-Man*'s game mechanics?

I'm amazed at what the designers did with such little memory (in modern terms). *Pac-Man* has great AI and although the ghosts are not completely random in their movements, they did a great job, though. I play freehand for the first 20 boards and manipulate the ghosts to do what I want. Thing is, even the best players get caught out by an occasional and completely random movement which amazes me even today. Ghosts in the machine…

46 Lemmings

■ Year: 1991 ■ Platform: Various

Mike Dailly is over the moon that *Lemmings* made your list: "It's great that many gamers love *Lemmings*. I'd love Sony to do more with them. We believe the characters could be used in more than the current style, they're full of character and are ripe for different genres."

45 Speedball 2: Brutal Deluxe

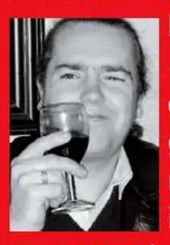
■ Year: 1990 ■ Platform: Various

It was hard not to be excited by *Speedball 2*. Like the best sequels it drastically improved on the mechanics of the previous game, but in this case it came at a high price. Let's bow our heads and take a brief moment to remember all the joysticks that fell to The Bitmap Brothers' gruelling futuristic sports game...

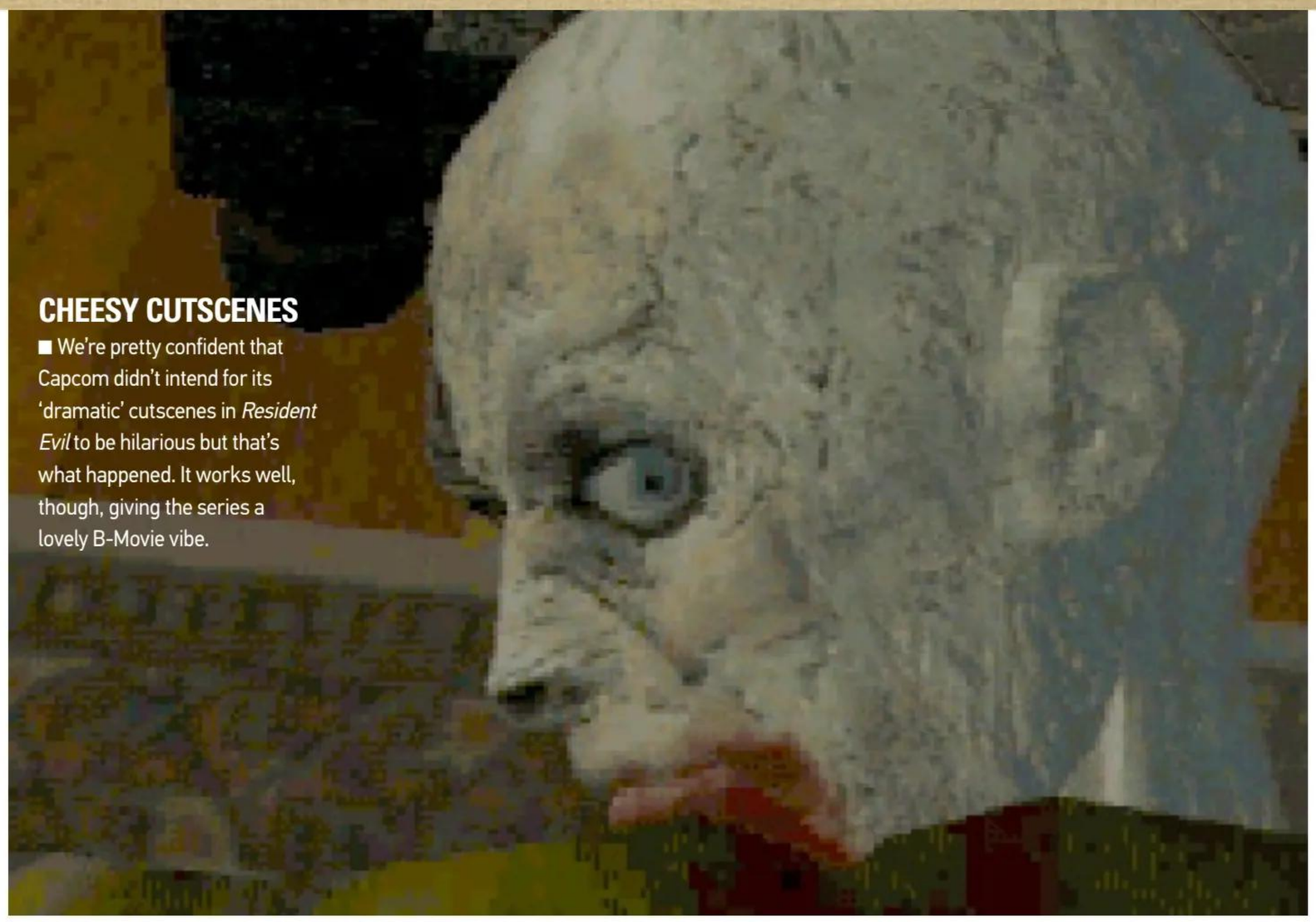
Turn to page 60 for our making of feature on Speedball 2

44 JON HARE ON SENSIBLE WORLD OF SOCCER

■ Year: 1994 ■ Platform: Various



I am delighted to see *SWOS* placed so highly, considering how many great games have been made over the years. My intention with *SWOS* was to make a kind of computerised version of *Subbuteo* with the whole world of football at your fingertips and always someone there to play it with you, the computer if not your friends. The fact that it was inaugurated by Stanford University as one of the ten most influential games of all time is my greatest achievement to date and that people still love and play *SWOS* today, over 20 years later, is amazing.



CHEESY CUTSCENES

■ We're pretty confident that Capcom didn't intend for its 'dramatic' cutscenes in *Resident Evil* to be hilarious but that's what happened. It works well, though, giving the series a lovely B-Movie vibe.

HOW CAPCOM REINVENTED THE SURVIVAL HORROR GENRE

43 Resident Evil

■ Year: 1996 ■ Platform: PSone

CINEMATIC TRICKS

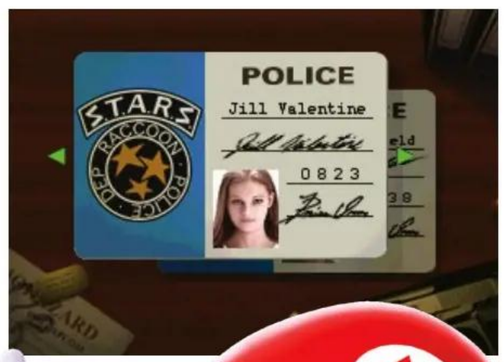
■ Capcom made *Resident Evil* feel like a film by borrowing all sorts of useful tropes from the movies, including smart panning shots, seeing your character from the monster's view and, of course, traditional jump scares.

ITEM STORAGE

■ It infuriated many, but item storage became a crucial part of making it out of Spencer Mansion alive. You'd need to constantly juggle resources and have a good memory to ensure you always had what you needed.

MULTIPLE CHARACTERS

■ Unlike early survival horror games, *Resident Evil* gave you the choice of playing two characters, Jill Valentine and Chris Redfield. Both campaigns are notably different too, meaning plenty of replay value.



IT'S ALL ABOUT THE GRAVITY

42 Super Mario Galaxy

■ Year: 2007 ■ Platform: Wii

Nintendo is amazing at making things feel new. When Mario first ran through World 1-1 of *Super Mario Bros.* it was fresh and exciting. Nintendo achieved the same effect when you first saw Mario appear in *Super Mario 64* and it pulled off the same trick yet again with *Super Mario Galaxy*. The first time you run around a planet and start leaping around while you're upside down is the moment you realise that Mario is the master of the platform genre. It's no surprise that so many of his games have gone on to appear in your final list.

KAZUMA KUJO ON CREATING ONE OF THE ARCADE'S MOST ICONIC SHOOTERS

41 R-Type ■ Year: 1987 ■ Platform: Arcade

How did *R-Type*'s distinctive design originate?
We thought it would be hard to invoke a big scale atmosphere with a biological expression. This is why we settled on the biomechanical design. I also think by implanting machines into living things, the game became interesting.

Where did the inspiration for the bosses come from?
With regard to the design of Dobkeratops, the original model was actually one that our lead designer had since joining Irem, and was used without any changes. With the bosses we made a lot of effort to create unique characters – something that nobody had ever conceived, attacked or seen before.

What can you tell us about the iconic Stage 3 boss?
The ship was originally intended to be the final boss, and was designed as the 'moving base' of Bydo. We were keen to have players destroy the surface of this giant ship but at the same time we also wanted all players to enjoy this unique character, so the decision was made to bring it forward to Stage 3. I think Stage 5's boss, Bellmate, is the most interesting. It appears with so many masses of cells around it, which fly toward the player's ship one after another, and its attack pattern is unique. The player has to charge their shot to destroy it, and I also like the rhythm of its attack.

How did you balance *R-Type*?
Because the game was originally developed for the arcade, we made the balance of the difficulty considering the players' achievement – based on how far somebody could get on a single credit [100 yen]. We also paid close attention to the changes that occur between each stage. The colours and themes change rapidly rather than gradually.

Tell us about the R-9 Fighter's design.
In the beginning we considered a robot that could transform into a combat plane, but as the game developed, this idea gradually changed into the 'Force' and disappeared. At the early stage of the R-9's planning, we wanted the ship to shoot up and down as well as front to back. Initially, the ship could turn around and shoot backwards as it transformed into the robot, but the concept didn't work very well. It was then we realised that we could solve the problem using the 'Force'.

What was the 'Force' inspired by?
The 'Force' was inspired by the ball-rolling Dung Beetle. Initially, it could be added to the top and underbelly of the ship – not just back and front, but we found the concept difficult to use, so we removed it. We were seeing so many shoot-'em-ups appearing from other publishers, we wanted to incorporate a unique power-up system into our game. We spent a lot of time refining the specifications of the ship and the look of the enemies at the beginning of the game.

Why do you think *R-Type* remains so popular?
Some of the functions must've felt fresh. The control over the 'Force' might look difficult but it becomes interesting once you get used to using it. Maybe the fun of learning the formation of the attacks, the game's setting, creature designs, and so on helped. I think the reason why this game is appealing is because its uniqueness never gets old.

HOW TO DEMOLISH R-TYPE'S FIRST BOSS

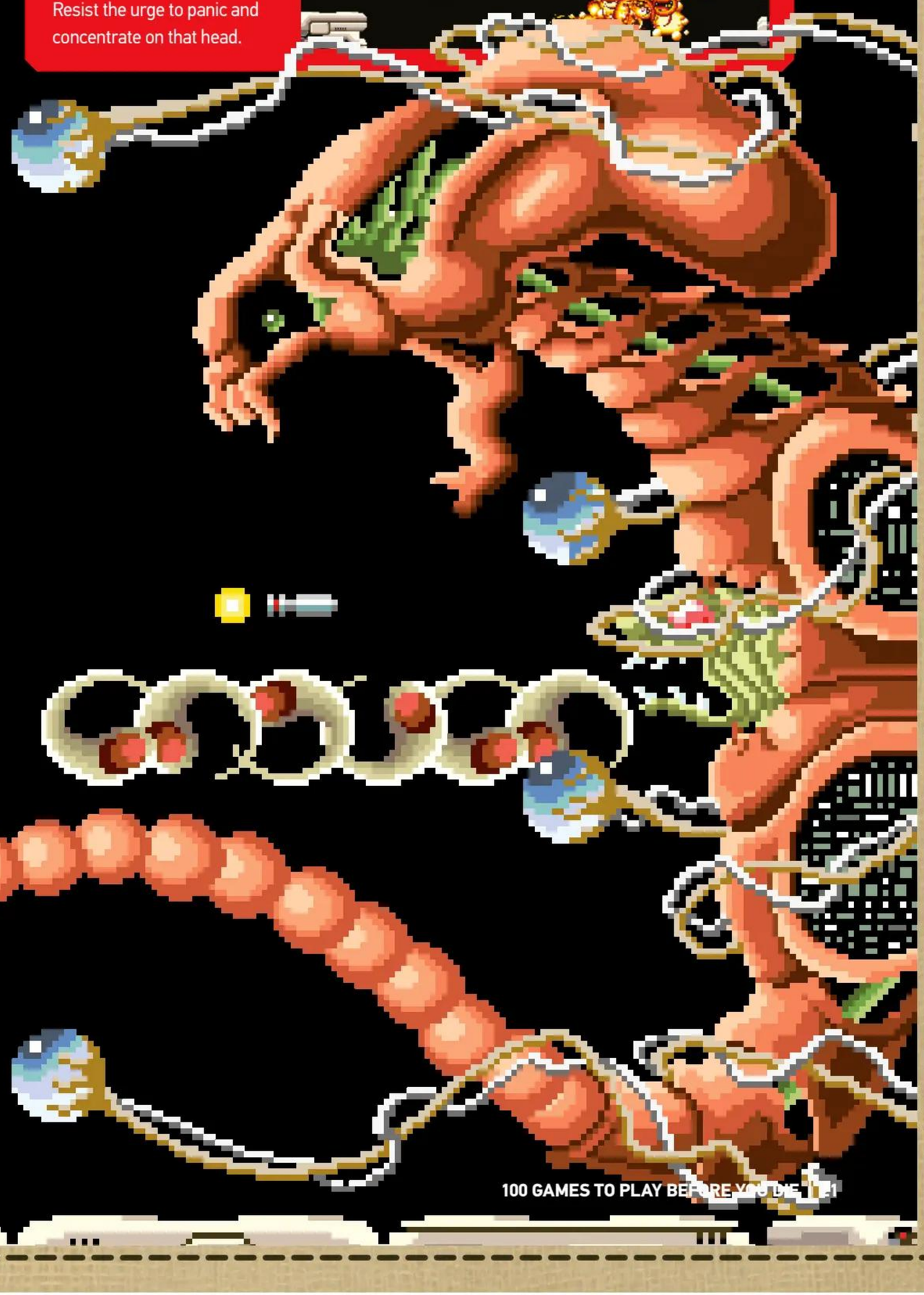
1 Ignore the eyes, as they are nothing but a cheap distraction.

2 Focus all your firepower on the stomach and watch out for the small alien.

3 Detatch the 'Force' so it rests in the stomach for maximum damage.

4 If you take too long it'll move towards you. Resist the urge to panic and concentrate on that head.

5 Sigh with relief.



MARIO'S DEVELOPERS ON CREATING WORLD 1-1

40 Super Mario Bros.

■ Year: 1985 ■ Platform: NES

World 1:1 does a great job of teaching the player what to fear and what to avoid. How much planning went into that design?

Takashi Tezuka: I really think Miyamoto-san put a lot of thought into the first course. Even if you look at the draft documents as we drew it out we really simulated what a first-time player would do and experience. Emotionally too; if you saw a Goomba coming maybe they would want to jump onto the platform on top. So we really looked at the details and simulated the player's experience and thought process, designing the course based on that.

Shigeru Miyamoto: I don't want people to think that I'm a manipulator, necessarily, based on that comment. It's really about my intention of wanting players to really understand the game mechanic, so just on the first and second stages we want the player to fully understand the game and for the rest of it be able to generally enjoy the game. Even when our testing team was playing the game I would stand behind them to see if what I simulated or what I thought is happening or not.

Takashi Tezuka: Sometimes you forget what a first-time player experiences or goes through as you continue to design games. It's interesting to go back and refresh what it takes, because just the game control of using your left and right hands very differently in itself could be a new experience for a first-time game player. From that point of view it's really important and good to continue refreshing your memory of what that experience is.

THE HARD FACTS OF (HALF)LIFE

39 Half-Life

■ Year: 1998 ■ Platform: PC

■ Its opening intro of Gordon heading to work has been copied by countless other games.

■ It's one of the first first-person shooters to tell its story through scripted sequences.

■ Unlike other examples of the genre it throws in a surprising amount of puzzles for Gordon to tackle.

■ Characters will continually help Gordon on his quest, adding to *Half-Life*'s atmospheric world.

■ While Gordon can utilise numerous weapons, his reliance on a humble crowbar separates *Half-Life* from its peers.

SHOOT THE CORE

38 Tomb Raider

■ Year: 1996 ■ Platform: Various

Everything seemed aligned for the birth of Lara Croft. 3D gaming was an exciting new medium that developers were experimenting with, while media from all corners focused on *Tomb Raider*'s leading lady. While Core Design is no longer with us, the legacy it left with *Tomb Raider* is unquestionable. Lara's first adventure not only helped redefine the adventure genre, but also began a series of games that has spanned two decades. It's telling that even with the high acclaim that the reboots have received in recent years it's Lara's original quest that makes it into your final list.

THREE STEPS TO RPG HEAVEN

37 Final Fantasy VI

■ Year: 1994 ■ Platform: SNES

KEFKA

■ *Final Fantasy* games had always had villains, but none were quite as memorable as the cackling, almost-comical bad guy Kefka.

A CHANGING WORLD

■ Halfway through the game is a dramatic scene that alters the layout of the world and acted as a powerful moment for the story, a facet that has since remained a series staple.

DEEP CUSTOMISATION

■ One of the things fans love about *Final Fantasy* is its varied RPG systems, an element that *FFVI* displays beautifully with its highly customisable Magicite system.

179th The Legend Of Zelda: Twilight Princess
405th The Legend Of Zelda: Oracle Of Seasons
391th The Legend Of Zelda: A Link Between Worlds
483th Zelda II: The Adventure Of Link
888th The Legend Of Zelda: Skyward Sword

HOW LINK WENT FROM ZERO TO HYRULE HERO

36 The Legend Of Zelda: The Wind Waker

■ Year: 2003 ■ Platform: GameCube

A CHEEKY CHAP

■ There's something about this youthful and cartoonish Link that just makes him all that more charming to play as. He's got a bit more of a naughtiness about him that you never really felt in the more mature *Zelda* games, perhaps making a bit more sense for him to destroy everyone's vases.

HAVE SOME FUN!

■ As great as *Ocarina Of Time* and *Majora's Mask* are, they're just a tad too serious at times. *Wind Waker*, by comparison, was a much more jovial experience, with talking boats, friendly pirates and a more comfortable setting for comical – and, frankly, bizarre – character Tingle.

WELCOME TO GAMECUBE

■ For many the, cel-shaded adventures of *Wind Waker* helped signal just what the GameCube was about. While the industry was onward towards a permanent, grit-infused shade of brown, *Wind Waker* proved there could still be fun in the industry.

AGELESS ORIGINALITY

■ This aesthetic hadn't been popularised at this point, but more than anything it's helped make *Wind Waker* one of the few games of the era to withstand the test of time It means its originality can still shine through, even if you were to play it today.

35 Monkey Island 2: LeChuck's Revenge

■ Year: 1991 ■ Platform: Various

It takes skill to approach a sequel to one of the greatest adventures of all time *and* improve upon it, but with smoother interactions, greater production values and an even more humorous storyline *LeChuck's Revenge* managed just that.

34 Bubble Bobble

■ Year: 1986 ■ Platform: Arcade

Bubble Bobble's inclusion of a brilliant co-op mode is likely to be the reason why so many remember it so fondly. The game itself was utterly replayable – not least thanks to its multiple endings.

33 Chrono Trigger

■ Year: 1995 ■ Platform: SNES

Riding the wave of *Final Fantasy* is one thing, but Square felt it needed to prove its status as king of RPGs. A fascinating, storyline, a unique combat system and a brilliant cast made *Chrono Trigger* truly stand out.

32 Resident Evil 2

■ Year: 1998 ■ Platform: PSone

While it might not be quite as breakthrough as the original, *Resi 2* took what made its predecessor so well-loved and improved on it. It's perhaps the perfect *Resi* experience, thanks to its amazing atmosphere and characters.

31 Grand Theft Auto V

■ Year: 2013 ■ Platform: Various

While *GTA V* might not be as groundbreaking as *GTA III*, a vast world with an original three-character story makes it the definitive modern-day Rockstar game.

MATTHEW SMITH'S GREATEST ACHIEVEMENT

30 Manic Miner ■ Year: 1983 ■ Platform: ZX Spectrum

Turn to page 54 for our full making of feature on Manic Miner

Retro Gamer received flak in the past for going overboard with its coverage of the *Miner Willy* games. That criticism was probably warranted in the early issues, but as the latest survey results show, the games *are* hugely popular with readers. *Manic Miner* is the highest-charting Spectrum original, and is the third-placed 8-bit computer game overall behind *Elite* and *Tetris*. And, being released in 1983, it also happens to be the oldest game in the top 30.

It's not hard to see why the game retains its appeal after all these years. The initial impact was impressive at the time – imaginative and colourful sprites, in-game music and sound effects (on the Spectrum, no less) – but it's the perfect platforming challenge that has elevated the game to classic status. Many of its 20 caverns are exceptionally well-designed, and the game rewards dedicated players by saving the very best screens until late in the game. If you're one of those intrepid souls who's made it through to the final cavern and grabbed the cryptic items at the end then you'll know that the game's reputation is fully deserved. *Manic Miner* is Matthew Smith's masterwork and will always be one the greatest games of the 8-bit era.

» Certain screens were inspired by the popular arcade games Matt enjoyed at the time.

DERRICK ROWSON

Coder of Manic Miner and Jet Set Willy for the Amstrad CPC (with Steve Wetherill)

Manic Miner feels more complete than *Jet Set Willy.* You do a task and then progress. *Jet Set Willy,* on the other hand, allows several tasks to be bypassed and other routes to be taken. If I then attempt the missed task, and lose my lives, I feel it was a wasted journey. *Manic Miner* seems to teach skill as each level is passed. The more it is played the easier it becomes. *Jet Set Willy* somehow does not feel this way.

I never had access to Matthew's source code, but having someone else's code is sometimes not all that helpful. Matthew could code as the normal person talked. He used to challenge people to write code quicker than he did. I would bet that most of his code was written in one attempt – he would think of something then just write the code. No flowcharts, no bit-by-bit writing to test out his logic – just type it out and see if it worked. Which most of the time it did.

CHRIS LANCASTER

Coder of Manic Miner for the Commodore 64

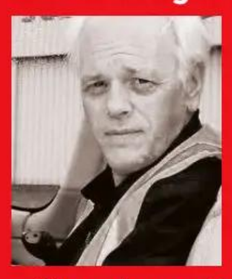
Software Projects got in touch and discussed the possibility of me writing the C64 version of *Manic Miner*. I was in the Royal Air Force at the time, so any software development had to be done in my spare time, but Alan Maton was happy with that and bought me a Spectrum so I could see how *Manic Miner* played. Five and a half weeks of sleepless nights later and the C64 version was ready, just in time to get it into the shops for when they opened after Christmas.

To me, the simple gameplay of *Manic Miner* was the key to its success. It's a game that takes seconds to learn the controls to play it, but can provide hours of amusement. Programmatically, the basic game is not very complex, but Matthew did a really good job of getting half decent sound out of a Spectrum. The graphics were original and I particularly liked the large head of Eugene.

» The Warehouse, with its unstable floors, was one of the trickiest rooms in the game.

ROY COATES

Coder of Manic Miner and Jet Set Willy for the Dragon 32/64



Alan Maton from Software Projects showed me a Spectrum running *Manic Miner*. This was the first time I'd ever seen the game. He said, "We want you to write that – for the Dragon." The game looked so simple, I was sure that I could knock it out in a very short time. I was wrong. Three months of hard graft later it was done.

There's a certain something about *Manic Miner*. It seems to be both mysterious and familiar at the same time. Although we looked at every game we could get our hands on back then, none had the same charisma that *Manic Miner* had. I still love it today.

I did add some extra screens for my own amusement. I'd forgotten all about it until after the launch when Software Projects called me and gave me a good ticking-off for not telling them. They were pleased, of course, since it generated more publicity. It also allowed Dragon owners to gloat to their Spectrum-owning pals. For once, the Dragon had more.

Cavern

Bethesda's *Fallout 3* was the second attempt at making it – the original version was scrapped in 2003 when Interplay closed Black Isle Studios.

HOW WAR CHANGED

29 Fallout 3

■ Year: 2008 ■ Platform: Various

- Full-3D environments gave a vastly heightened sense of immersion, drawing players into the Capital Wasteland.
- High-profile voice acting from the likes of Liam Neeson, Ron Perlman and Malcolm McDowell lent the game a big-budget feel.
- A renewed focus on the story and the downplaying of self-referential humour kept the fourth wall firmly intact, in contrast to its predecessors.
- Bringing the game to consoles took the series from cult hit to mainstream success, bringing millions of additional players into the fold.
- Not everyone was thrilled with it – the game attracted controversy in Australia, India and Japan due to its themes and content.

Sega Of America initially rejected *Sonic*

Despite having been designed to appeal to the West, Sega Of America initially branded *Sonic* as a complete disaster – in fact, it was so convinced that the project was unsalvageable that it contacted a designer to create a replacement character.

It nearly ended up on home computers

Sonic's exclusivity was a key selling point for Sega consoles, but it nearly wasn't exclusive. US Gold announced that it had acquired the rights to convert *Sonic* to the C64, Spectrum, Amstrad CPC, Atari ST and Amiga, with news stories appearing in ACE and *C&VG*.

Turn to page 76 for our making of feature on Sonic The Hedgehog

THE SPEEDSTER'S MANY SECRETS

28 Sonic The Hedgehog

■ Year: 1991 ■ Platform: Mega Drive

When *Sonic The Hedgehog* hit the Mega Drive, it looked and sounded like nothing else around – pop composer Masato Nakamura composed a catchy soundtrack and the graphics weren't just well-drawn, they shifted about at an incredible pace. Or at least, they could. Sonic was never just about speed, and some excellent level design challenged players to perform precision platforming as well the odd daredevil stunt. Coupled with an appealing hero, the game had all the tools to take the world by storm and did exactly that, transforming the Mega Drive from a worthy competitor into a mass-market success.

Sonic didn't originally fight robots

Early concepts featured Sonic fighting a more traditional-looking bunch of monsters. He also had a girlfriend named Madonna, but the damsel in distress concept was dropped pretty early on to differentiate the game from Mario and Princess Peach.

The 'real' credits are hidden in the game

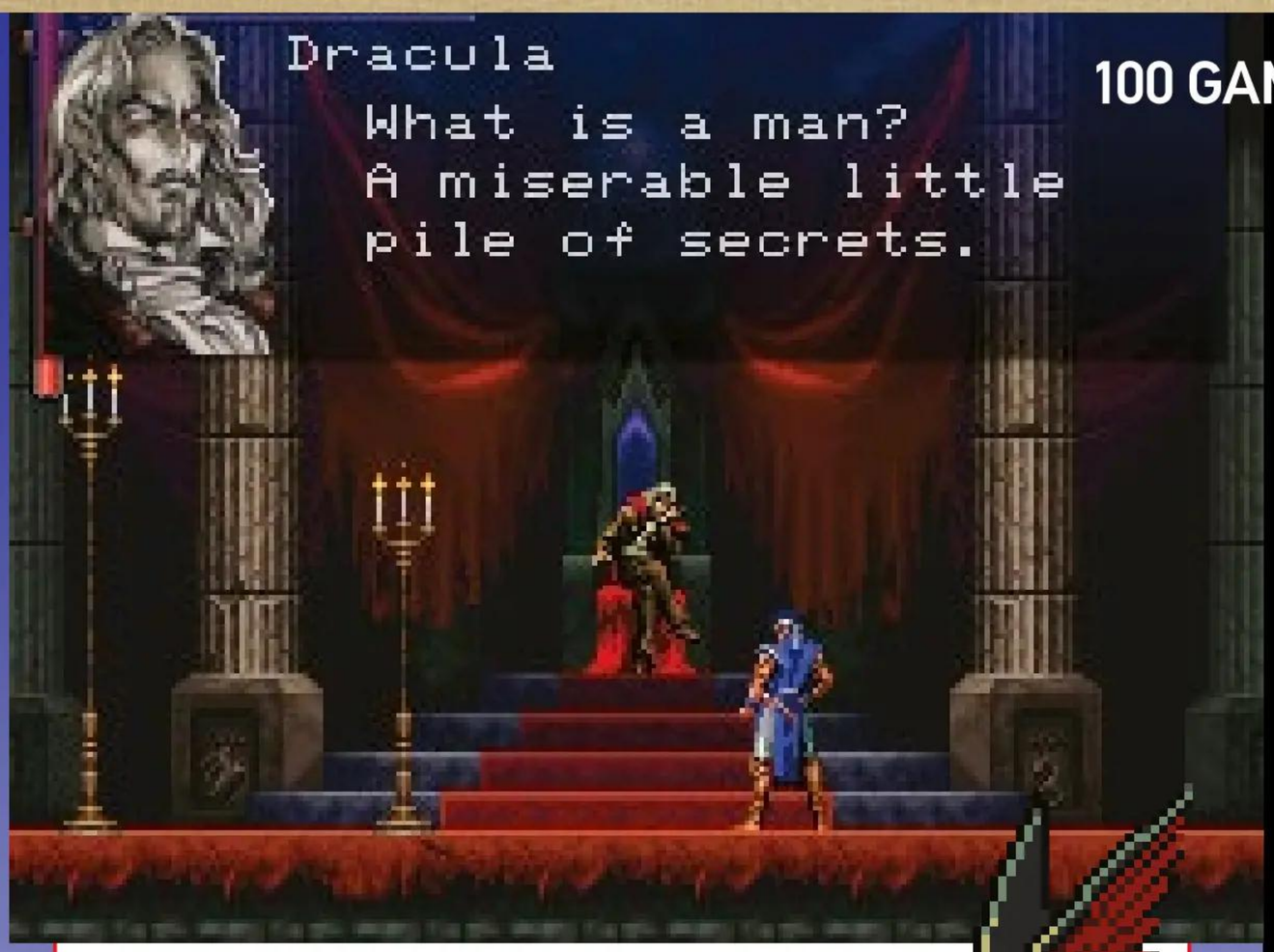
The Team had to use pseudonyms, but there's a hidden screen with the team's real names. To see it, play the game on a Japanese Mega Drive and press C, C, C, C, C, C, Up, Down, Down, Down, Left, Right on the title screen. When the demo starts, hold A, B, C, and Down.

Robotnik's wrecking ball got around

It's well-known that the wrecking ball Robotnik uses in Green Hill Zone was originally a free-rolling hazard that could be pushed and even ridden, but there was also an unused swinging variant, which could take the place of the more beneficial swinging platforms and the code still exists.

Sonic used to be in a band

Sonic was the vocalist of this group, and he was joined by a rabbit a chicken and a crocodile. They were originally set to feature on the game's sound test screen, but were cut for time reasons – the free space was filled up with the iconic Sega sound effect instead.



IGA ON HIS EPIC SYMPHONY

27 Castlevania: Symphony Of The Night

■ Year: 1997 ■ Platform: PSone

On *Symphony Of The Night*'s appeal

I wanted to change the impression that *Castlevania* was this difficult-to-access action game. When we decided to adopt RPG elements, we agreed that users should receive something good when beating enemies. So I thought of adding XP to the game. I thought that even the users who were not good at playing this type of action game would be able to clear *Symphony Of The Night* if I adopted this particular system.

On creating Alucard

I decided to choose a character that had a special link to the previous *Castlevania* titles. Personally, I liked Alucard very much and it was totally fine with me, but I presumed that those who had been fans for a long time would be angry with our decision since it was the first time the series ever had a non-whip-using character as a hero. Alucard was just a really cool hero, and that is why I think *Symphony Of The Night* has been received so favourably by the fans.

On Symphony's music

The music direction has never led the creation of the game. I have always asked Michiru [Yamane] to compose music in accordance with the actual game and never the other way around. She co-ordinated with the team and composed music from the image of the stages.

On his favourite tune

My favourite is *Castle Dracula* which starts to play when Alucard enters the castle for the first time. I was impressed with the way the music starts to play once Alucard enters the castle, and then suddenly the castle gets bright and zombies start to appear. It might be because that part was programmed by myself.

NAUGHTY DOG GET REAL

26 The Last Of Us

■ Year: 2013 ■ Platform: PS3

Can you talk about why you decided to chose the over-the-shoulder perspective, and how it plays into interactive storytelling?

Ricky Cambier (lead designer): Ok, so to talk about camera for a second – the difference between *The Last Of Us* camera versus the Uncharted camera is basically… well, in the Uncharted camera you're further back, you can see all of Nate. In *The Last Of Us*, though, you're *tight*, the camera is brought way in on Joel. You are up close, there's the sense that there's danger all around you. It's intimate. Dangerous. You know, every bullet *counts*.

***The Last Of Us* is noticeably devoid of unnatural exposition dumps and unrealistic dialogue. How do you avoid these common shortcomings?**

Josh Scherr (writer): It's important, for us, to have a compelling narrative that's delivered in a believable way. The characters have to come first. As long as you create compelling characters that have a convincing arc to the story, everything else can follow alongside that: gameplay, design and so on.

Naughty Dog's reveal of *The Last Of Us* was almost spoiled in *Uncharted 3*, as an in-game newspaper referenced the game's fungal infection theme. Players assumed it was another team, though!

THE **POP CULTURE** REFERENCES THAT **DEFINED** ROCKSTAR'S **CLASSIC** GAME

25 Grand Theft Auto: Vice City

■ Year: 2002 ■ Platform: Various

Vice City first made your list years ago when it was still a contemporary game. Despite having only been on sale for two years, it appeared in your original top 20, proving that Rockstar's decision to set the game during the Eighties was a canny one that would resonate with a large number of gamers.

Of course, even without its Eighties nostalgia, *Vice City* would still be an entertaining game thanks to its interesting lead character, solid and varied missions and numerous subtle tweaks to the gameplay that had made *GTA III* so entertaining to play. Almost two decades on, the passion for it still burns strongly.

SCARFACE

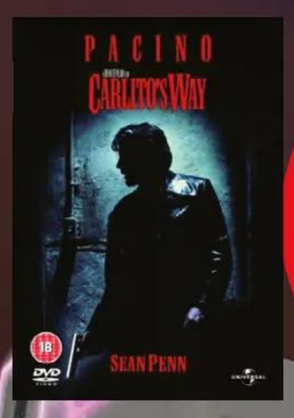
■ The similarities between Tommy Vercetti and Tony Montana are many. They both rise to power using insane amounts of violence and have similar-looking mansions.

RESERVOIR DOGS

■ The most obvious connection is that Tommy Vercetti looks remarkably similar to Michael Madson's Mr Blonde.

THE GODFATHER

■ There are obvious parallels between Sonny Forelli and Santino 'Sonny' Corleone. In addition to having the same name, they both have the same mean temper and want to muscle in on the drug trade.



CARLITO'S WAY

■ Ken Rosenberg not only looks incredibly similar to David Kleinfield in *Carlito's Way*, but also has the same cocaine addiction and becomes increasingly incoherent and paranoid as the game continues.

SMOKEY AND THE BANDIT

■ Burt Reynold's character is very similar to the role he plays in the famous film and The Bandit itself also features in the game.

MIAMI VICE

■ Lots of references to the classic TV show. *Crockett's Theme* plays, Philip Michael Thomas plays Lance Vance and the titles are similar.

WHY THE **SILENT CARTOGRAPHER** IS **AMAZING**

Turn to page 132 for our making of feature on Halo: Combat Evolved

24 Halo: Combat Evolved

■ Year: 2001 ■ Platform: Xbox

Bungie's game already impressed with its intelligent story, satisfying gunplay and detailed textures, but The Silent Cartographer took things to a whole new level. It starts off brilliantly with Master Chief receiving instructions as his ship passes over a frantic battle. Later you're in the thick of that very same fight, tackling Elites, watching the soldiers you just landed with fall, and doing your very best to get off that damned beach. It's a brilliant opening that only gets more intriguing as you dig into the Covenant base.

YOSHIO SAKAMOTO ON **EXPLORATION**

23 Super Metroid

■ Year: 1994 ■ Platform: SNES

We really didn't want to explain things to the player using too many words. We wanted to let them play and work things out for themselves. For example, say there's a mechanism where you need to climb up a ladder and place a bomb there in order to advance, as one component in the solution of a [gameplay] riddle; if that was all you needed to do in order to get through to the next area, you'd miss all of the other mechanisms we'd put in place and wouldn't even realise that certain parts of the game existed. We wanted players to explore everything we'd made. That's why we designed the maps in a way that the player couldn't escape without exploration, or in such a way that the player would end up back at a starting point before advancing. The player would be cornered/driven and would be forced to stop and say, 'Right, how should I think about this area?' That's the essential point of the map design. The player had to 'feel' their way through the game. We wanted the player to feel that they had made that discovery independently.

STEVE LYCETT FEELS THE WIND IN HIS HAIR!

22 Out Run

■ Year: 1986 ■ Platform: Various

What's your first memory of *Out Run*?
Putting 10p into a stand-up machine in Chapel St Leonards and the force feedback totally taking me by surprise. Pretty sure I got as far the split in the road, ran out of time, then instantly had another go to see if I could do better. I was hooked! Learning I could make the chicane at the end by shifting gears saw me through to the next stage and I felt like it was me in that shiny red Ferrari. I've been in love with the game ever since.

Why do you think that it remains such an iconic game?
It delivered really on so many fronts. Visually it was stunning and there is a real sense of speed, it sounded great, each car overtake feels like an achievement due to the roar they make as you drive past. The junctions are a masterstroke as it made you want to go and play again just to see where you could go, you'd not really had that freedom available before so it suddenly made its whole world feel more real. It wasn't a racing game either, it was a driving game where you were on real roads and the only opponent was the clock, which was fresh in itself.

What's your favourite music track from the game and why?
I've always learned towards *Splash Wave* as actual driving music, but honestly I think my favourite track is actually the map/highscore theme *Last Wave*. It's such a bookend to the drive that even if you don't make the end, you can look at the sunset in the background knowing you did your best! The gentle waves in the background just evoke seaside holidays too.

Did you ask Sega if you could include it in your *OutRun 2* port?
Sega insisted all the music was present, including *Last Wave*! I did suggest we use it for the XMB music before you went into game, just to set the right feel.

What mechanics does it share with OutRun Coast 2 Coast?
All of the driving remains very much the same between *OutRun 2* and *Coast 2 Coast*. The weight and handling was driven quite mathematically through some complex behaviours, plus the design was based on very specific curve radii. Sega nailed the feel in the original arcade game so it was very important we didn't adjust that too far as part of the experience is that perfect driving feel.

If you could go on a road trip with Yu Suzuki where would you go?
OutRun 2 SP was a love letter to America, I'd love to do the whole Route 66 with Yu Suzuki in an open top 512BB. *Splash Wave* blaring out of course!

Would you like to make a new *OutRun* game?
We'd absolutely love to go back and do a third game, we've suggested it to Sega many times.

AN EPIC SPACE ADVENTURE

21 Elite

■ Year: 1984 ■ Platform: Various

There's still a lot of love out there for the epic space combat and trading of *Elite* – it's an impressive performer, as only two Eighties titles and just one UK-developed game rank higher than Braben and Bell's classic. However, the game was at the very top of **Retro Gamer**'s 2004 top 100 list, and narrowly missed the top 20 this time around. Why has it slid down the rankings? We have put it down to shifting demographics, particularly when it comes to our international audience and the influx of Nineties kids.

GORDON'S ALIVE!

20 Half-Life 2

■ Year: 2004 ■ Platform: Various

5 YEARS The game's development time

96 The game's score on Metacritic

12 MILLION+ Number of copies sold

EVERYONE The people blown away by the Gravity Gun

$40 MILLION The game's budget

YOU FIGHT LIKE A DAIRY FARMER!

HOW APPROPRIATE! YOU FIGHT LIKE A COW!

SOON YOU'LL BE WEARING MY SWORD LIKE A SHISH KEBAB!

FIRST YOU BETTER STOP WAVING IT ABOUT LIKE A FEATHER DUSTER.

THERE ARE NO WORDS FOR HOW DISGUSTING YOU ARE.

YES THERE ARE. YOU JUST NEVER LEARNED THEM.

TALK TO... RON GILBERT

19 The Secret of Monkey Island

■ Year: 1990 ■ Platform: Various

So what made you want to make an adventure game about pirates?
At the time fantasy adventures, such as *King's Quest,* were very popular, but because I've never been much of a fantasy fan myself. I wanted to do something different, something more based on reality. Although the pirates in *Monkey Island* aren't really the slimy 17th century bandits of the high seas that they were, they're more a mix of swashbuckling Errol Flynn movies and the Disneyland Pirates Of The Caribbean theme park ride. That was one of my favourite rides at Disneyland as a kid, getting on that little boat and being taken on your own pirate adventure, but I always also wanted to get off the boat and wander around those big pirate ships and interact with the characters. But, to me, making *Monkey Island* wasn't actually about making a realistic pirate game, it was about making a game that played on all the clichés of movies such as *Treasure Island* and *Captain Blood*.

One of the things that made the games great were the memorable characters like the bumbling Guybrush Threepwood, the undead pirate LeChuck, Governor Marley, and, our favourite, Stan the Used-Ship Salesman. Was it fun fleshing these characters out for players?
Well, at the time, a lot of computer game characters were like cardboard cut-outs that spoke in weird half-sentences because they were just doling out information to you as the player. We wanted characters that you could get to know and understand, and that's just down to good writing. Where Stan came from was that during the [production of the] first *Monkey Island* I bought a car. And I remember going to the car dealer and he wouldn't let me leave!

How did the idea for insult sword-fighting originate?
I watched lots of old pirate movies for the first *Monkey Island*, and one thing that stood out was that while they were fighting they always taunted each other with insults. I knew we needed sword-fighting in a game about pirates but because I didn't want to introduce any action gameplay the old movies provided the perfect solution.

NOBODY'S EVER DRAWN BLOOD FROM ME AND NOBODY EVER WILL.

ONLY ONCE HAVE I MET SUCH A COWARD!

YOU RUN THAT FAST?

HE MUST HAVE TAUGHT YOU EVERYTHING YOU KNOW.

I GOT THIS SCAR ON MY FACE DURING A MIGHTYSTRUGGLE!

I HOPE NOW YOU'VE LEARNED TO STOP PICKING YOUR NOSE.

YOU ARE A PAIN IN THE BACKSIDE, SIR!

YOUR HAEMORRHOIDS ARE FLARING UP AGAIN, EH?

How useful was the experience of developing *Monkey Island* for your future adventure videogame projects like *The Cave* and your upcoming adventure, *Thimbleweed Park*? What is it like slipping back into that style of game?

Monkey Island was the first game where I felt I had once-and-for-all figured out what an adventure game should be. I learned a lot on those games, and still use a lot of the same game design and puzzle construction methods today. If you look at the puzzle structure of *Monkey Island* and the puzzle structure of something like *The Cave* they share a lot in common. And with *Thimbleweed Park* we are definitely trying to capture a lot of the charm and sensibilities of the old LucasArts games...

How do you feel about the fact that the first two *Monkey Island* games are still remembered and rated so highly by Retro Gamer readers after all these years?

It's very humbling. There are two things in my career that I'm most proud of. *Monkey Island* is one of them and Humongous Entertainment is the other. It's amazing for me to hear what those games meant to people and to realise I was a part of that. And that people that weren't even born when the games originally came out are discovering them through the *Special Edition* versions on their consoles or mobile devices. I never would have believed it back then... People tell me that they learned English or how to read from playing *Monkey Island.* People have had *Monkey Island* weddings. Two people have asked me if it was OK to name their new child Guybrush. It warms my grumpy heart. But not too much, I'm still grumpy.

» LeChuck ominously anchors his ghost ship in a river of lava – as if ghost ships weren't frightening enough...

» Meeting and fighting the Sword Master is just one of the memorable moments from *Monkey Island.*

WHY SEGA'S SEQUEL RULES

18 Streets Of Rage II

■ Year: 1996 ■ Platform: Mega Drive

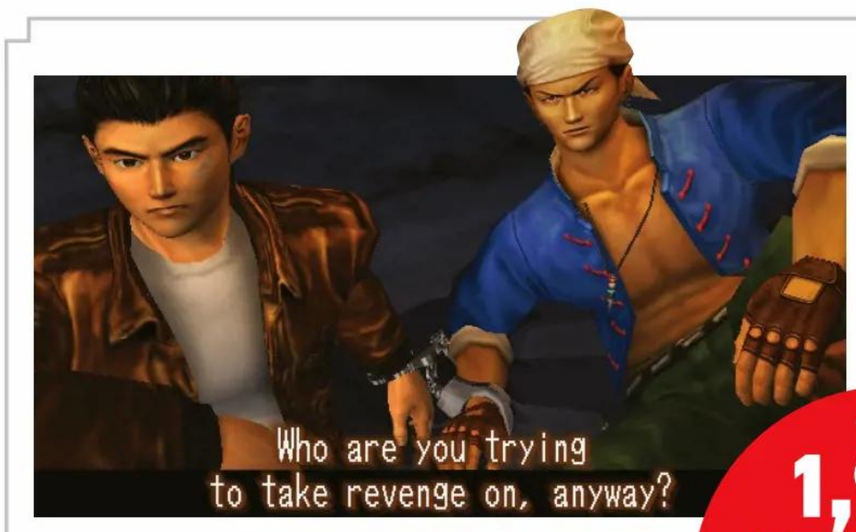
■ The addition of new characters Max and Skate gave options for players who wanted extreme strength or unsurpassed speed.

■ Every character boasted new unique special moves, allowing them to clear out crowds of enemies while inflicting major damage.

■ Bigger sprites and better animation pushed the Mega Drive, bringing the look and feel of coin-op beat-'em-ups into the home.

■ Yuzo Koshiro delivered another round of pulse-pounding dance tracks, somehow managing to top the excellent soundtrack of the original game.

■ More varied enemy attack patterns included motorcycle assaults, spectators jumping in from the background and strikes from above.



1,965
Yu Suzuki's forklift tweet prior to the announcement of *Shenmue 3.*

1,571

RYO GOES TO HONG KONG

16 Shenmue II

■ Year: 2001 ■ Platform: Various

They say calm comes before a storm, and *Shenmue*'s sedate pace gave way to a Hong Kong-based sequel which saw Ryo engage in much more dangerous situations. From chasing down thieves to being chased by a chainsaw-wielding maniac, this chapter of the quest for revenge against Lan Di involved much more fighting. If that doesn't appeal, you can still drop by the arcade and even race some ducks.

BETHESDA'S PETE HINES ON A MODERN CLASSIC

17 The Elder Scrolls V: Skyrim

■ Year: 2011 ■ Platform: Various

How does it feel knowing our readers consider *Skyrim* as much a classic game as *Pac-Man*, *Super Mario World* and *Elite*?

I think it's a pretty great tribute to the team at Bethesda Game Studios that it created something people feel so strongly about, to be included amongst some of the most iconic, important games in videogame history.

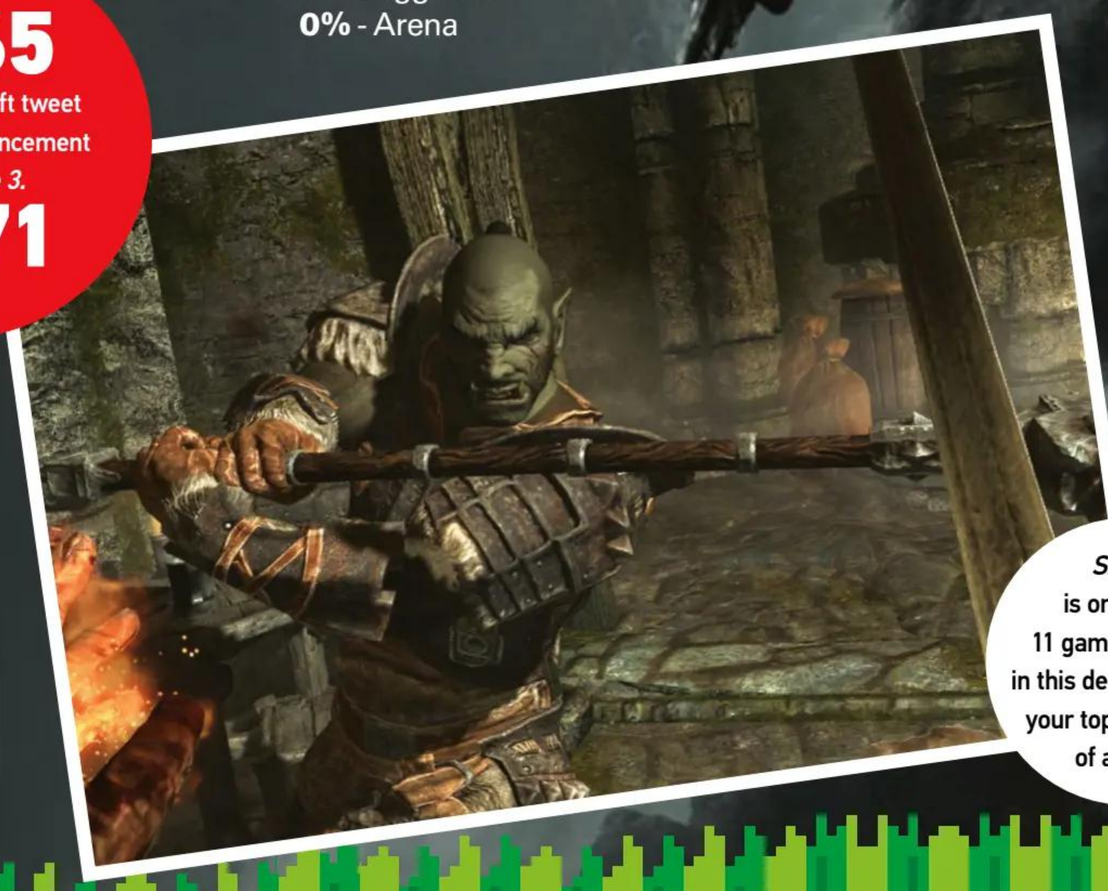
Why do you think our readers consider *Skyrim* to be one of the greatest games of all time?

I would guess different people might have different reasons, but that's part of what (I think) makes *Skyrim* great: it's a game you can make your own. You're telling your own story of who you want to be, and what you want to do, and the game allows that to happen in so many different ways. It's the combination of shared experiences and experiencing things that your friends have never seen or done in the game. I am glad so many people have enjoyed it so much.

Turn to page 140 for our feature on The Elder Scrolls V: Skyrim

THE FINAL VOTES

42.61% - Skyrim
15.22% - Oblivion
11.16% - Morrowind
1.1% - Daggerfall
0% - Arena



Skyrim is one of just 11 games released in this decade to make your top 150 games of all time.

KONAMI'S STEALTHY SUCCESS

15 Metal Gear Solid

■ Year: 1998 ■ Platform: PSone

Turn to page 126 four our ultimate guide to Metal Gear Solid

Many games have imitated *Metal Gear Solid*'s obvious qualities – its focus on cinematic storytelling, its expertly-crafted stealth-based gameplay and its bizarre sense of humour. However, the reason that it's so high on your list is that there's arguably not been a game as inventive since. Your memory card, your control pad, your knowledge of real-life TV sets and even the game's packaging were utilised in imaginative ways to enhance the game experience. Lots of games are clever, but Hideo Kojima's 3D debut was –and is – a work of creative genius that proved to be years ahead of the competition.

15th - Metal Gear Solid
97th - Metal Gear Solid 3: Snake Eater
335th - Metal Gear Solid 4: Guns Of The Patriots
430th - Metal Gear Solid 2: Sons Of Liberty
500th - Metal Gear
749th - Metal Gear Solid: Peace Walker

SONIC RETRO'S COURTNEY GRIMES ON A STUNNING SEQUEL

14 Sonic the Hedgehog 2

■ Year: 1992 ■ Platform: Mega Drive

When did you first encounter *Sonic 2*, and what did you make of it?

Like lots of folks, I first encountered *Sonic 2* in Christmas 1992. I remember poring over the tome-like holiday guides put out by *Electronic Gaming Monthly* and *GamePro*, marking up the department store catalogues that showed Sega games and desperately hoping my parents wouldn't screw up and accidentally buy something for our Super Nintendo or Master System. Come Christmas morning, I start unwrapping gifts and the first box I open is an extra Genesis controller—so naturally with kid logic, I start crying because my parents messed up. Needless to say, by the end I spent the entire day up until the wee hours playing through to Metropolis Zone, racing my family in two-player mode and loving every minute.

Why do you think *Sonic 2* is the most popular game in the series?

It's important to remember that *Sonic 2* was a triple-A game before the concept of triple-A games really existed. We struggle now to retroactively figure out Western release dates around that time, but everyone knows *Sonic 2*'s day. Promotion for the game saturated every part of Nineties kid culture: features on Nickelodeon, articles in children's magazines, crazy and creative commercials that ran during kids and teens' programming – it became a cultural event of its own, and it was something that even kids who weren't that interested in video gaming knew about and got excited for.

The scale of creative force that was applied to the development of *Sonic 2* was unparalleled at the time. Having two teams be in two different parts of the world collaborating to make a game at a time when most development teams ranged from four to eight people was like nothing seen before. The amount of finesse that went into the art has provided some of the deepest influences to not only *Sonic* games but platformers at large; Masato Nakamura's soundtrack set the standard for what music in games should sound like. When you look at games from 1992 – *Chiki Chiki Boys*, *Kid Chameleon*, *Rolo To The Rescue* – *Sonic 2* looks and feels light years ahead.

What makes *Sonic 2* stand out for hardcore *Sonic* fans?

Sonic 2 stands out for hardcore fans for a few main reasons: one obviously being that the game had the widest impact with sales of nearly 6 million copies of the game, so there's a lot of popular nostalgia there. *Sonic 2*'s emphasis on linear, branching paths also encouraged a thriving community of tool-assisted speedruns and glitch discoveries – what better game to compete with on time than with a character who's gotta go fast?

The ambition that came with *Sonic 2* also left us with a lot of cultural detritus that has been a rich vein to mine – learning about scrapped zones, interviewing developer and using the leftover pieces to become game creators finishing these bits and bobs into full-blown zones!

STREET FIGHTER V PRODUCER PETER ROSAS ON CAPCOM'S SEMINAL BRAWLER

13 Street Fighter II ■ Year: 1991 ■ Platform: Arcade

What are your earliest memories of *Street Fighter II*?
My earliest memory was walking home from elementary school and stopping by the local bowling alley right after they got *Street Fighter II*. I just remember seeing this large crowd of teens huddled around this one machine and wondering what it was they were watching. When I finally got close enough to see the screen, I was blown away by the graphics at the time.

Another exciting memory was when I first saw players landing Guile's sonic boom combos. Seeing his moves cancel into special moves totally changed how I approached other characters, as it showed there was more to the game than I thought.

Why do you think *Street Fighter II* remains so popular with gamers?
I think there are quite a few factors as to why *Street Fighter II* remains so popular to this day. I could go on and on about the various reasons, but instead I will concentrate on two: iconic character design and music.

You have these iconic characters, whose design and fighting styles are caricatures of the country they represent. Although they seem outlandish, I think that in the back of everyone's mind they could actually visualise a one-eyed kickboxer in Thailand, or an enlisted soldier who fights out of the US kicking ass.

Another big reason is definitely the music. Just about every character theme in *Street Fighter II* not only fits the character, but also the stages in where the fighters do battle. The music also helps raise the tension of the battle with the songs speeding up towards the end of each round.

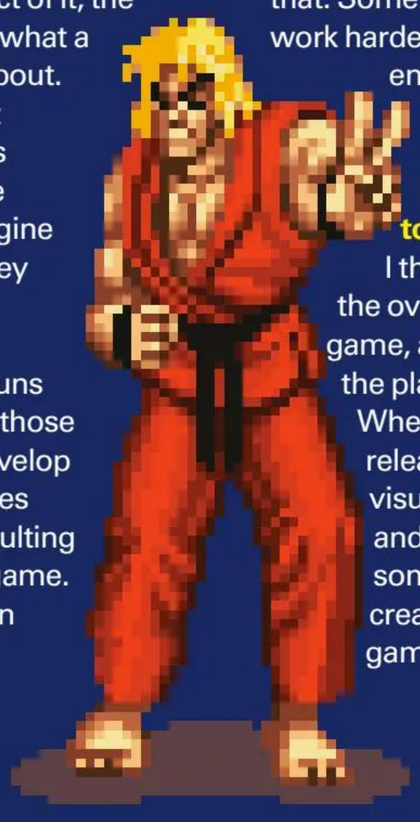
Who do you consider the best character and why?
I think the best character is Guile. He has great damage output, long range attacks and the best projectile recovery in the game. He also has the coolest looking combos!

What makes a great competitive fighting game?
The elements that make a good fighting game are accessibility, depth, and balance.

Accessibility is important, as you want more people to be able to play the game and actually understand why they're winning or losing. The faster players can figure out the game system and move on to the competitive aspect of it, the faster they can enjoy what a fighting game is all about.

Depth is important because once players understand the game they'll explore the engine to see what tactics they can devise to defeat opponents. If the gameplay is rigid, it runs the risk of turning off those who aren't able to develop tactics against the ones they're losing to – resulting in them quitting the game.

Lastly, balance is an element that can't be stated enough.
Players like to feel that regardless of what character they use they always have a chance at winning. A properly balanced game allows for that. Some characters may have to work harder than others, but at the end of the day, that work is rewarded with a victory.



How critical is the music to the game?
I think it's pretty critical to the overall experience of the game, as it can really immerse the player into the game world. When *Street Fighter II* was released, it had amazing visuals, innovative character and battle design - as well as some of the best music ever created for not only fighting games, but games in general.

RETRO GAMER'S KARTING HEROES

12 Super Mario Kart

■ Year: 1992 ■ Platform: SNES

We're not surprised to see *Super Mario Kart* chart so highly (although three *Mario Karts* in the top 150 feels a little excessive). It was one of the first games from Nintendo that proved Mario had true crossover appeal, but it was also an excellent racer in its own right. Even today *Super Mario Kart* is amazing fun to play, particularly when having time trial competitions with friends, a mode responsible for many missed deadlines during our university days. The track design throughout is excellent, there's good variety between the eight playable characters and the three difficulty modes ensure plenty of replay value. Oh, and it pretty much setup the entire kart racing sub genre, too. All hail *Mario Kart*.

DARRAN JONES
Editor
■ I choose Mario. It's partly because he's a balanced character and the star of the show, but it's also because I'm lazy and he's the first racer that's selectable.

JONATHAN WELLS
Art Editor
■ Koopa Troopa all the way, he always seemed like one of the more balanced characters but with an added speed boost. He's still my go-to character!

NICK THORPE
Senior Staff Writer
■ My allegiance lies with Yoshi – he's great at recovering from hits thanks to his excellent acceleration, and his top speed isn't as woeful as that of the lightweight characters.

DREW SLEEP
Production Editor
■ Given the fact that Mushrooms give you a boost the fungus-clad Toad is synonymous with speed, and I'm all about speed. He's also rather adorable, and equally as idiotic.

GAMES™'S JON GORDON ON A NES CLASSIC

11 Super Mario Bros 3

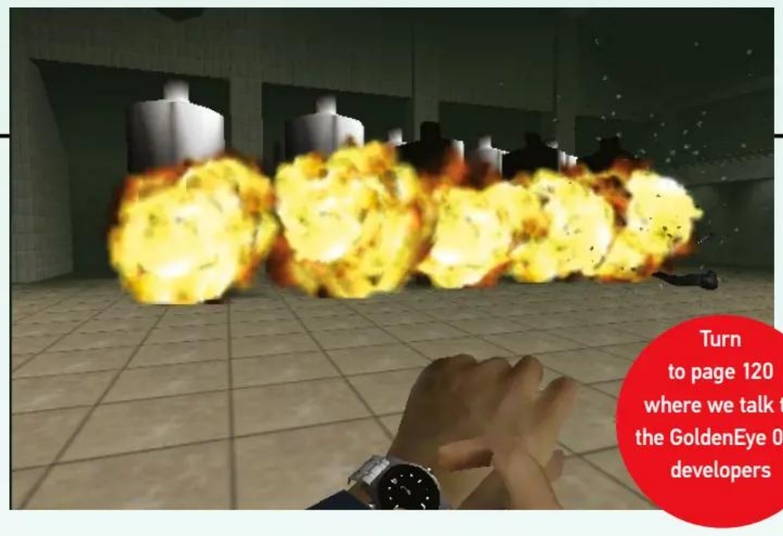
■ Year: 1988 ■ Platform: NES

What's your earliest memory of *SMB3*?
Probably getting the game for Christmas and spending several hours, still in my pajamas, playing through the opening levels. The vibrant colour of the game compared to the original was amazing. Plus getting the Super Leaf and flying for the first time was mind-blowing.

Why was it an important platformer?
It was perfectly balanced from start to finish. As with any Miyamoto release it teaches players effortlessly what the rules of the game are as you progress. It was juggling so many new mechanics, but it instantly felt familiar and tighter than anything else before.

How did it influence later *Mario* games?
Well, it established the *Mario* costume mechanic, with the Tanooki and Frog suits, which has gone on to pretty insane levels in recent years. And we wouldn't have had the amazing cape mechanics of *Super Mario World* without it either.

What level/world defines the game for you?
That's tough. The first level (World 5-3) with the Kuribo shoe is a big one for me personally. It's one of my favourite *Mario* power-ups. The Airship levels stand out though. The forced scrolling, barrage of cannon and Bullet Bill fire and imposing soundtrack remain superb on all of them.



Turn to page 120 where we talk to the GoldenEye 007 developers

DAVID DOAK PICKS UP THE GOLDEN GUN

10 GoldenEye 007

■ Year: 1997 ■ Platform: N64

What was your role on *GoldenEye*?
The majority of my input was setting up the single player levels, turning story into game. I really enjoyed the challenge of getting the main NPC characters to work. Their behaviour and AI may seem dated now but at the time I think all of the non-combat stuff was very innovative. I did write some very shoddy code to run the in-game watch menu, although I'm sure Martin Hollis used to fix it when I wasn't looking.

Why do you think it's so fondly remembered?
A lot of things came together. It looked and sounded great and was state of the art on the N64. The core gameplay was well implemented and enhanced by game engine features like location based hits, dynamic props, explosions, sniping... and hats! Single-player transformed what features people expected from an FPS. It had a variety of story themed objectives, interesting AI, stealth based elements and all of this added to the feeling of being Bond. Then there was multiplayer. At the time, you couldn't really play competitive FPSs without PCs and a LAN but *GoldenEye* put it right in your front room.

Would you ever play as Oddjob in a deathmatch?
Multiplayer Oddjob is a crutch for the incompetent. I think if you choose him you are making a fairly clear personal statement.

HOW CAPCOM'S FOURTH RESI REIGNITED A GENRE

9 Resident Evil 4

■ Year: 2005 ■ Platform: Various

Turn to page 136 for our full making of feature on Resident Evil 4!

- The over-the-shoulder perspective hits the sweet spot between the cinematics of a fixed camera and the immersion of an FPS.
- Laser-sighted gunshots are damn handy for really hitting the shambling hordes where it hurts.
- Those violent villagers really don't take to strangers – look how they work together to make your life hell.
- When it comes to boss battles, these really are epic. Del Lago put us off swimming forever.
- Buying and selling items is key, though why does the merchant never remember us? Shouldn't we have a loyalty card?

JON ROMERO REVISTS ID'S GAME-CHANGING FPS

8 DOOM

■ Year: 1993 ■ Platform: Various

Is *Doom* the best game you've been involved in?
Yes, definitely. It was the right game at the right time and it was a lot of fun to create. As a company, *Doom* was where we really hit our stride. Even though it wasn't Tom Hall's cup of tea, everyone else was really into it. John Carmack pushed the industry forward technically with BSPs, multiplayer mode and the diminished-lighting 2.5D engine. Adrian Carmack and Kevin Cloud created an amazing array of iconic art and Bobby Prince made a great soundtrack. When we finished the game we just didn't want to see it again for a while but only two weeks later we were as addicted to it as anyone else!

Why do you think the game is so well-loved?
It still feels great from a player control perspective. The enemies are well-balanced in regards to the control afforded to the player and the level design and sound effects create an ominous atmosphere. Even though modern day FPS design has progressed, these elements still make a fun game. It's timeless in that respect.

Which is your weapon of choice when playing *Doom*?
The Double-Barrelled Shotgun. Second choice is the Rocket Launcher.

If you can get a character's HP to exactly 7,777 in battle, they'll perform a huge 64-hit attack in which each hit deals 7,777 damage.

ANGST

■ You know how every Japanese RPG seems to have a brooding, angsty hero? That's Cloud's fault. Having said that, if you were forced to watch the life slip from the bodies of your loved ones, you'd probably be a bit miserable too.

BUSTER SWORD

■ If you're going to have a big, cool sword, why not have the biggest, coolest sword that your Gil can buy? Cloud subscribes to this philosophy, which is why he carries this absolutely enormous wedge of a weapon.

AMNESIA

■ Another classic Japanese RPG trope, here – although in Cloud's case it's not quite the case. See, he's got memories. It's just that you're never quite sure which parts of his life story aren't exactly true, and neither is he...

PRETTY BOY

■ Not only is Cloud a hit with the ladies, earning the affections of both Tifa and Aeris as well as other characters, he's capable of outdoing the ladies when he crossdresses his way into a 'meeting' with Don Corneo.

VENGEANCE

■ Sure, Cloud's issues with Sephiroth do stretch into the scale of planetary jeopardy, but let's not forget that more than anything else, he's avenging the murders of his mother and one of his love interests.

SEVEN FOR VII'S ULTIMATE HERO

7 Final Fantasy VII

■ Year: 1997 ■ Platform: PlayStation

They say that you never forget your first, and *Final Fantasy VII* was the game that introduced a whole generation of Western players to Japanese RPGs. It didn't just do that though – it gave the whole genre a much-needed makeover. The genre had long had a reputation for underwhelming visuals and cookie-cutter 'knights and dragons' settings. *Final Fantasy VII* carried a modern style and exhibited an extraordinary cinematic flair, distancing it from the games that had gone before it, while backing that up with a flexible battle system, an emotional storyline and an quest that takes dozens of hours to beat.

Turn to page 110 for our making of feature on Final Fantasy VII

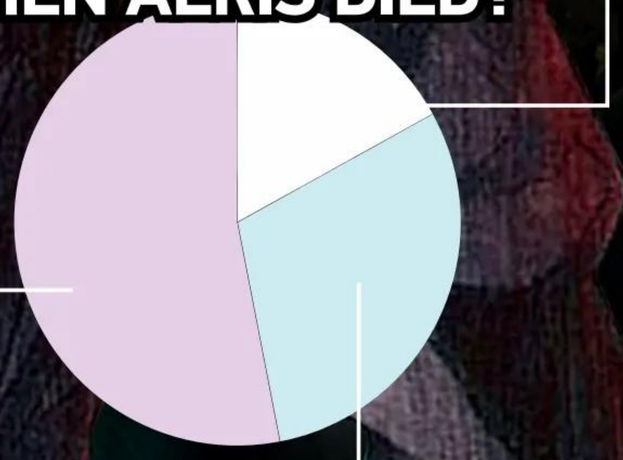
CHOSEN ONE

■ While Cloud isn't half-dragon or the last member of some ancient and powerful race, he *is* the product of experimentation that has turned him into a formidable combatant, in a way that none of his comrades quite match.

THE WILL TO OVERCOME

■ Cloud deals with some pretty heavy psychological battery throughout *Final Fantasy VII*, but even when his entire life crumbles around him and he suffers a breakdown, he still manages to eventually piece things back together and struggle on.

DID YOU CRY WHEN AERIS DIED?



COLLECTOR CHERYL GOACHER ON HER LOVE OF HYRULE

6 The Legend Of Zelda: A Link To The Past

■ Year: 1991 ■ Platform: SNES

What is it you like about the *Zelda* series?
That's a tricky one. I guess it's that feeling of exploration and adventure that lured me in. I also enjoy the selection of almost fairytale-esque characters in the series. I guess that sums it up well; it feels like a series of interactive fairy-tales.

How long have you been collecting *Zelda* merchandise?
It was around the late-Nineties that I started seriously collecting *Zelda* merchandise, so over 15 years now. While I've not been able to get everything I've wanted or found for various reasons (space, money, availability, etc.), I'm proud of what I've managed to get my hands on during this time.

What's your earliest memory of *A Link To The Past*?
When my family took myself and my brother to get our SNES, the game I actually chose was *Super Mario All-Stars*! It was thanks to my Dad selecting *A Link To The Past* among his choices that I was able to experience it. I remember studying the instructions and map of Hyrule, reading up on the backstory and becoming engrossed in this world, even before playing the game! Once I started playing, I found it to be as magical as I'd envisioned after brushing up on Hylian lore.

Why do you think *A Link To The Past* is considered the best 2D *Zelda* game?
A Link To The Past not only provided the template that certain future titles would follow, but it did so with a real fantasy, swords-and-sorcery atmosphere that later games struggled to match. Oh, and it's the only *Zelda* game so far to feature a pink-haired Link!

How did it improve on the earlier *Zelda* games?
Aside from the aforementioned 'swords-and-sorcery' atmosphere, the power of the SNES allowed the Light and Dark Worlds – and their populations – to appear more alive. This is especially true given the myriad characters and enemies you come across.

Which bosses stand out in *A Link To The Past*?
Avoiding the obvious Ganon/Agahnim answer, the Helmasaur King comes to mind immediately for some reason. Probably because of how imposing it looks, plus you have to kill it by smacking its head with the hammer, which is always fun! Moldorm also stands out, but for the wrong reasons; it's a real nuisance to defeat if you're not careful!

What's the best weapon in the game and why?
The Golden Sword. It turns cute little Link into a death machine, especially when using the Pegasus Boots for ultimate sword-ramming power!

What's the best moment in the game and why?
Strangely, I like a lot of the little moments as well as the big ones, such as when Link does a little spin and holds his sword aloft after finishing a dungeon, or – rather morbidly – his Game Over animation, which still holds more charm than other 2D *Zelda* games that employ the same sort of animation.

Turn to page 90 for our making of Zelda: A Link To The Past feature

Apparently this was the exact face Darran pulled when he played Super Mario 64 for the first time...

A GAME WITH DEPTH

5 Super Mario 64

■ Year: 1996 ■ Platform: N64

Turn to page 104 for our ultimate guide to Super Mario 64

The transition from 2D game design to 3D wasn't easy on many developers. From *Lemmings* and *Street Fighter* to *Sonic* and so many others, awkward transitions to the third dimension were a mainstay of Nineties gaming. But if you were a Nintendo fan, you probably didn't notice that. When everyone else was struggling to find their feet, Nintendo strode confidently into a new generation to show other developers how it was done. *Super Mario 64* wasn't just a good game or even a great game, it was a masterpiece of 3D platform game design that went unsurpassed for a whole generation.

Instead of trying to directly port the largely linear stages that worked in 2D Mario, Nintendo designed the game around open 3D spaces with no fixed end point. Each stage offers a variety of objectives to ensure that players explore every nook and cranny, from battles and coin hunts to races and puzzles. The game is packed with memorable moments, from little touches like jumping into rippling paintings to big set-pieces like swimming with the manta ray. There are no rose-tinted glasses here – *Super Mario 64* is the essence of its genre, distilled into a single game.

PUZZLE PERFECTION

4 Tetris

■ Year: 1984 ■ Platform: Various ■

No game is quite so ubiquitous as *Tetris*. Just about every format has a version, official or otherwise. You might have been feeding your Game Boy batteries to keep playing, but you might have bought one of the 100 million copies sold on mobile phones, or mastered *Tetris: The Grand Master 3* in an arcade, or even hunted down *V-Tetris* for the Virtual Boy. It's a game that unites gamers of every experience level and every format.

Of course, it wouldn't be so high if it weren't so good. *Tetris* is the kind of game that gets its hooks into you – the compulsive nature of sorting shapes and eliminating lines means that a one game can turn into an all-night session. You can *easily* beat your score and you're *sure* that last game over was a freak accident. There are prettier games than *Tetris*, as well as more complex games and games that will leave a lasting emotional impact. But are there any games which inspire more addiction than *Tetris*? We don't think so.

BY THE NUMBERS

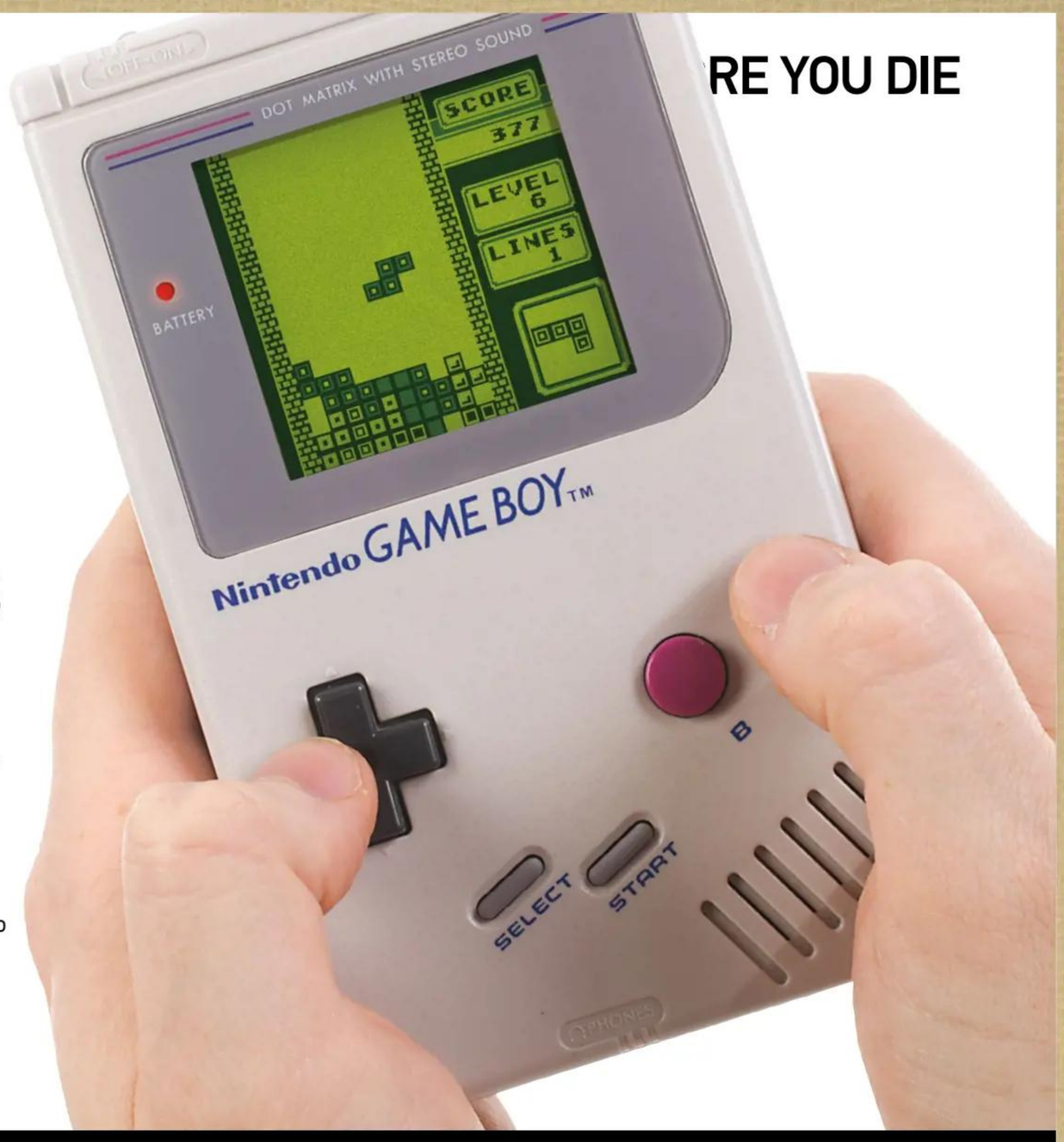
170 MILLION: The last cumulative sales total given for the *Tetris* series.

35 MILLION: How many of those were Game Boy *Tetris.*

748,757: Twin Galaxies' record points, scored by Uli Horner on Game Boy *Tetris.*

6: Number of times Portland Retro Gaming Expo has held Classic Tetris World Championship.

5: Number of times Jonas Neubauer has won Classic Tetris World Championship.



THE WORLD SIMULATOR

3 Shenmue

■ Year: 1999 ■ Platform: Dreamcast

There's never been a game quite as ambitious as *Shenmue*. Yu Suzuki envisioned a mixed-genre epic combining exploration and investigation with fighting, racing and all manner of minigames. *Shenmue* was to be a game in which you could talk to anyone, visit any shop you wanted and even use any vending machine. What's amazing how comprehensively that vision was delivered – though as the world's most expensive videogame development, it had to deliver.

Because *Shenmue* is so grounded in real life, it doesn't have the typical flow of a videogame. If you're meeting someone at a certain time, you will have to occupy yourself while you wait, and you'll spend far more time chasing down leads than getting into scraps – just like you would in your day-to-day life, right? It's a game that moves at a sedate pace – one which allows some players to appreciate the detailed world in full, but strikes others as ponderous.

Ryo Hazuki's quest for revenge isn't universally appealing, but the players that love it do so with a burning passion because no game – and we're including the sequel here – is quite like *Shenmue*.

Q&A: SHENMUE DOJO'S GEORGE MELITA

When did you first encounter *Shenmue*?
I first heard of the game when it was rumoured to be *Virtua Fighter* RPG. I eventually saw some promotional CG art and eventually *Project Berkley*. At the time, the realistic and somewhat grounded approach set itself apart from many other games, so it was something I wanted to try.

What are the qualities that set *Shenmue* apart from others?
Attention to detail. *Shenmue* can make an alleyway feel more alive than some game worlds. This coupled with the perfect sense of scale and fantastic pacing helps the player appreciate their surroundings. The setting has an charm, while the journey is seemingly endless and gruelling.

Despite the fact that *Shenmue* was absent for so long, fans have remained extremely passionate about the series. Why does it command such loyalty?
Shenmue commands the player to have a very personal connection with the games characters, surroundings and story. This is unique even by today's standards, though to have such an in depth title in 1999 was unheard of. The series' impact coupled with one of gaming's greatest cliffhangers of all time makes it tough to let go of.

GRAPHIC ARTIST **MARK R. JONES** ON LINK'S **GREATEST ADVENTURE**

2 The Legend Of Zelda: Ocarina Of Time

■ Year: 1998 ■ Platform: N64

It's quite unsurprising that all of you have voted *Ocarina Of Time* as one of the best games ever made, as even now, nearly 20 years after release, it still possesses so many qualities that have guaranteed its legacy. It's true, even, that a vast array of recent games owe a debt to Nintendo's 1998 masterpiece – highly-acclaimed modern games like *Dark Souls* riff heavily off of the environments, dungeon design, boss fights and real-time combat that Eiji Aonuma and his team developed so remarkably for *Ocarina Of Time*, adapting the well-honed *Zelda* formula for a new generation of players.

Tell us about your first encounter with *Ocarina Of Time*.
I was a regular reader of *N64* magazine and I'd been particularly impressed with all the previews and screenshots that they'd been printing for, seemingly, at least 18 months before the game came out. I seem to remember the game was very delayed, so our appetites had been whetted for a good long time before we got to sample the game itself. I think someone had mentioned this game was the next release for the N64 that was going to take it all to the 'next level'. *Super Mario 64* had upped the level when that was released in 1996, then *Banjo-Kazooie* did the same in July 1998 (in my opinion) that had improved on the details that were on display graphics wise, as well as expanding on what you could do in this world contained inside your N64. You had detailed background graphics with virtually no 'fogging' in *Banjo-Kazooie*. Now, *Ocarina* was upping it again. So I was looking forward to getting myself a copy as I enjoyed the other titles. I don't remember doing anything like queuing up outside the shop for a copy but I did get one quickly. Luckily I was working in a record shop in town and only had a few shops to walk past until I got to the local N64 stockist.

You found the Ocarina of Time!
This is the Royal Family's hidden treasure which Zelda left behind.
It glows with a mystical light...

What do you feel the games strengths are?
The major one for me was the combat system that made it really,

THE BEST MOMENTS FROM OCARINA OF TIME

FINDING HYRULE FIELD

■ Much like the *Elder Scrolls* games, *Ocarina* opens in a self-contained area, Kokiri Forest, before letting you loose on its world. Once you've ventured inside the Deku Tree, you leave the forest to find yourself in an area with loads of paths to explore – in 1998 this was the most impressive game world out there.

THE FIRST ENCOUNTER

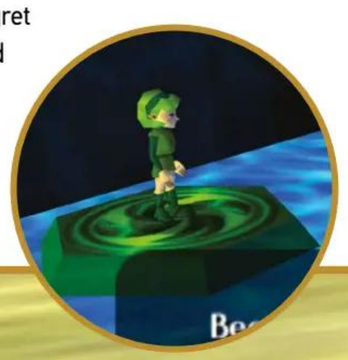
■ You approach Hyrule Castle only to see Zelda legging it out of there with her handmaiden. After she's lobbed the Ocarina Of Time into the moat, you find out why she's in such a hurry – she's being pursued by Ganondorf. This is the first time you encounter him, and it's quite memorable.

COMING OF AGE

■ Time travel mechanics were popularised by *Ocarina*'s sequel, *Majora's Mask*, but they did feature as an important story beat here. When you arrive at the Temple Of Time, you remove the Master Sword and are transported to seven years into the future, and everything has changed... including Link.

AN OLD FRIEND

■ After leaving her in the woods, you finally reconnect with Saria after beating the Forest Temple. Saria is now the Forest Sage, and Link reawakens her by beating Phantom Ganon. Saria expresses her regret that Link vanished for so long and professes her unrelenting friendship.



“The music was great… Those tunes have stuck in my head for 17 years”
Mark R. Jones

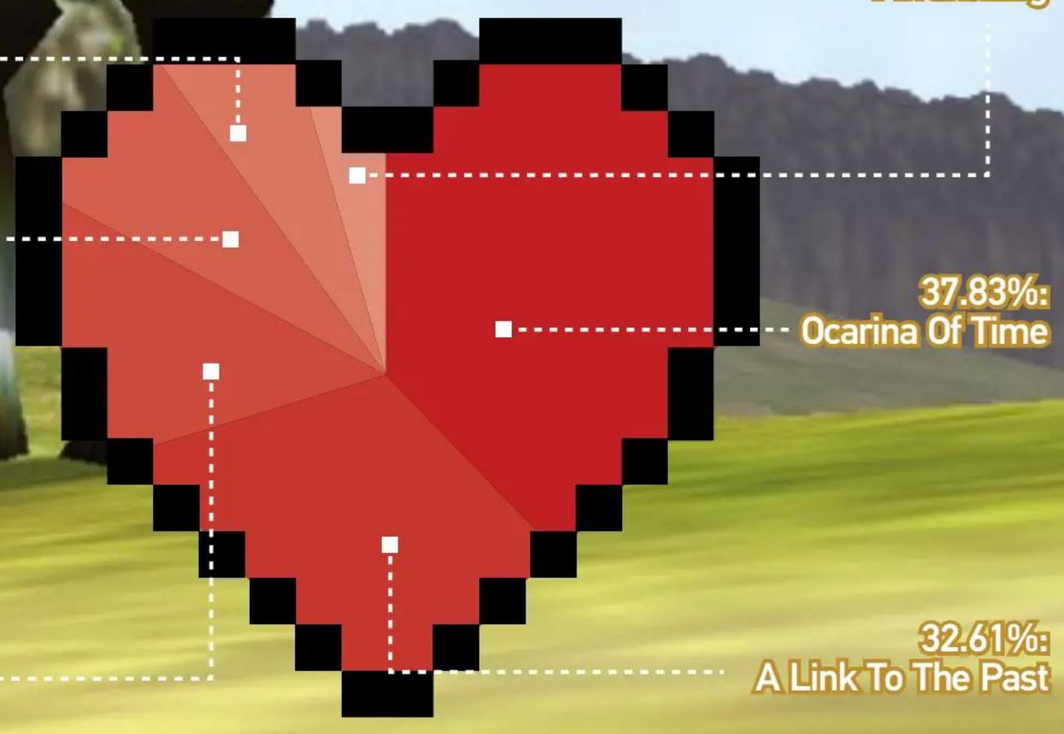
really, simple to engage in combat with the various fiends and foes in the game. Honestly, I'm pretty rubbish at playing games and in previous titles I'd be flailing around trying to slash and hack at whatever was attacking me. *Ocarina* had this target-lock system where you'd be able to lock on to the bad guy then all your attacks would be aimed in the right place, exactly where it's going to count. The camera worked well, too, you could circle something that was attacking you and the camera would pan round so you could still see what you were doing. I rarely had any issues with that, I don't remember not being able to see myself at the most important times. Games with dodgy cameras, for example, would sometimes have a rock or a tree in between you and the screen and all you could see was this rock and hear the sound of your energy being depleted as you're scrabbling around trying to get this damn camera to move position so you could see yourself. However they did it in *Ocarina* and it worked perfectly.

Also, the team did manage to create what seemed like a whole world in your N64 that you could explore at your leisure. Everyone loves a bit of escapism and this was perfect for that. It served me well over the dark winter nights of late 1998/99.

How important was it to the evolution of 3D adventures?
As I said earlier, it upped the level for those genre of games. Anything that came out after this *had* to try and improve or beat this. Otherwise, what would have been the point of even starting another game of this ilk? It looked great, you always just wanted to get that little bit further to see what it was going to throw at you next. The music was great, too, those tunes have stuck in my head for 17 years!

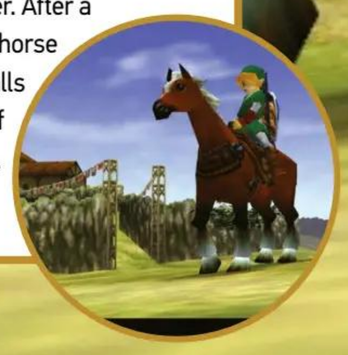
As a graphic artist, how does the game world impress you?
The animation was spot-on. Some earlier N64 titles had some dodgy graphics with people running with bow legs, or slide walking. That always used to make me wince, when the floor you were supposed to be running on moved quicker than the steps you were supposed to be taking. Link *stomped* across that landscape, you felt tired for him! You could almost see his footprints in the ground, he was putting some effort to get to where he was going. Some of those scenes were breathtaking when you saw them for the first time. Watch the intro to see what I mean, the sun's setting and Link's riding his horse across a field. You could just plug the cart in and watch that for five minutes before you did anything. Gorgeous.

HOW YOUR VOTES WENT



THE HORSE WHISPERER

■ When you return as an adult, Lon Lon Ranch has been bequeathed to Ingo by Ganondorf. After paying Ingo to ride one of his horses, if you play Epona's Song on your ocarina, Epona becomes tame and allows you to ride her. After a couple of wagers, you win the horse from Ingo, leaping over the walls before coming to rest on top of a hill in suitably heroic fashion. A great moment.



THE GAME TO PLAY BEFORE YOU DIE

Nintendo's magnum opus sold over 20 million copies and launched one of the greatest consoles of all time. Nick Thorpe takes a look back at Mario's very first 16-bit platformer for the Super Nintendo greatest game ever, as chosen by you

1 Super Mario World

■ Year: 1990 ■ Platform: SNES

When Nintendo finally entered the 16-bit console race in November 1990, it was in the unfamiliar position of having to stake its claim to market leadership against real competition. The company responded in typical fashion, by launching the Super Famicom with possibly the greatest one-two punch in videogame history. The turbo-charged Mode 7 racer *F-Zero* offered plenty of substance, but its appeal hinged on style and the lure of the unfamiliar. It was Nintendo's way of demonstrating technological superiority. On the other hand, *Super Mario World* definitely looked the part, but its main function was to provide substance and familiarity (in fact, the game bore the subtitle *Super Mario Bros. 4* in Japan). With it, Nintendo intended to reaffirm its position as the world's leading developer of videogames – and it succeeded.

» Sumo Brothers are challenging – they'll hammer lightning downwards, setting the ground below ablaze.

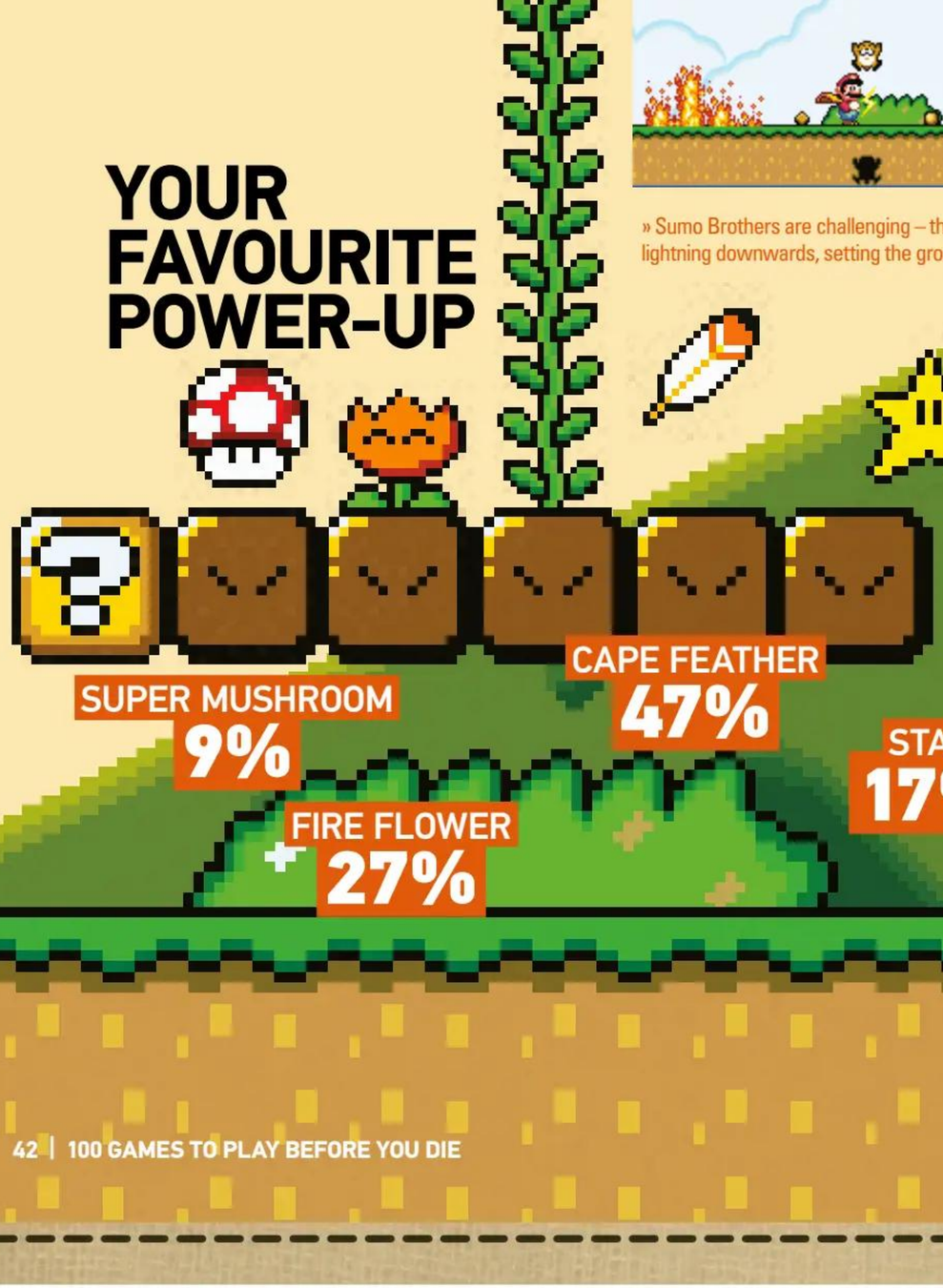
To advance the game past its superb predecessors, Nintendo assigned a mixture of veteran hands and new talent to develop *Super Mario World*. Of the 15-strong team that developed the game, nine were returning from *Super Mario Bros. 3* and one had previously worked on *Super Mario Bros. 2*, while the remaining five had no prior credits and injected some fresh insight. The other major change was a new lead game director – in this case Takashi Tezuka, who had previously served alongside Shigeru Miyamoto as an assistant director and later co-director. Miyamoto himself remained on the development team, but stepped back into the less hands-on role of a producer.

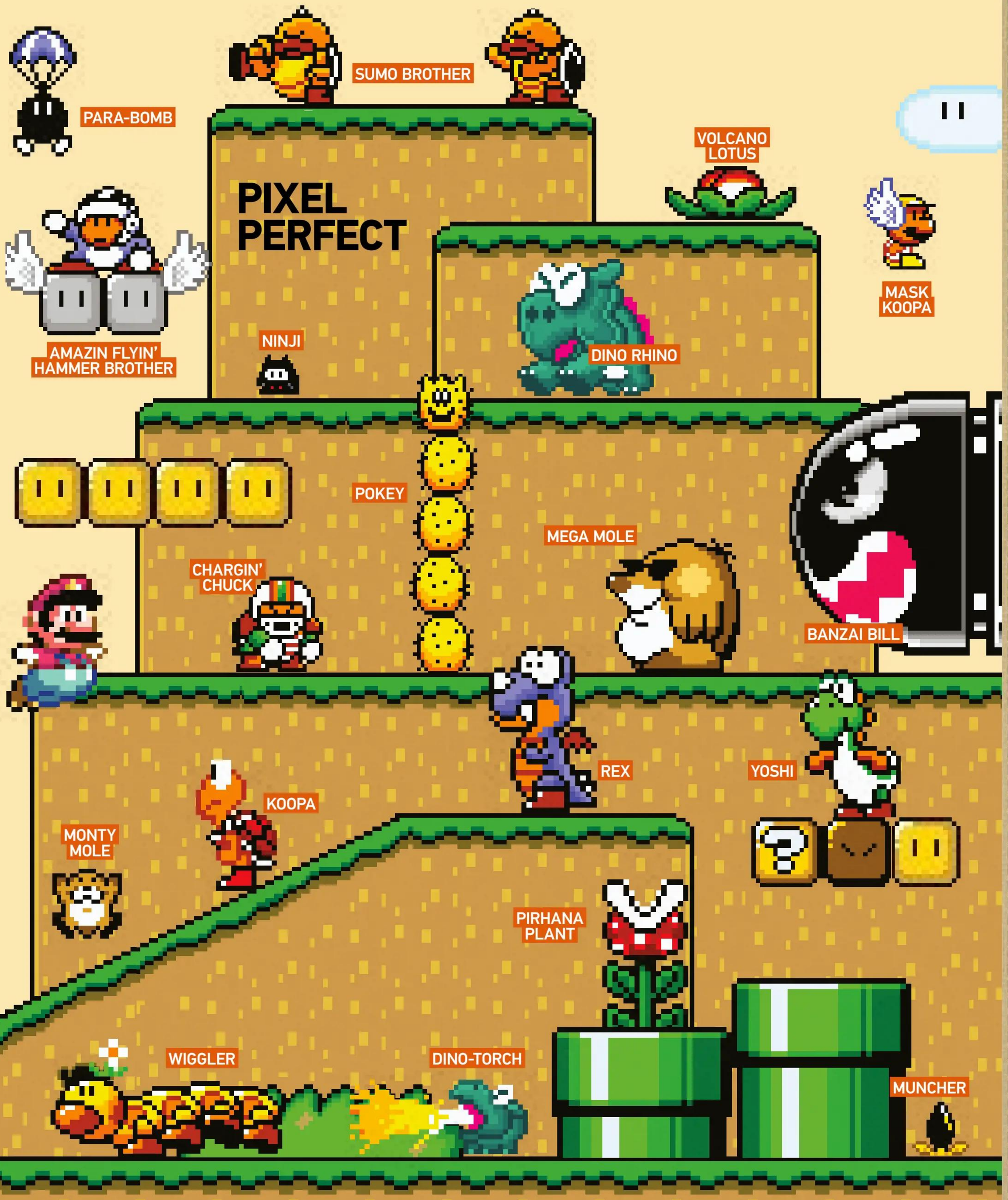
As far as the basic game design is concerned, the team wisely decided not to fix what wasn't broken. The block-based level designs are familiar to anyone that has played a *Mario* game, and Mario's skills and abilities

» This swarm of Bullet Bills is testament to the fact that there's a real challenge present.

are largely drawn from *Super Mario Bros. 3*, albeit with a few tweaks. The variety of special forms was scaled back to Fire Mario and Caped Mario (a new form, but one functionally similar to Raccoon Mario), and Mario retained the ability to kick carried items but could not boot them skyward. Other than that, the ▶

YOUR FAVOURITE POWER-UP



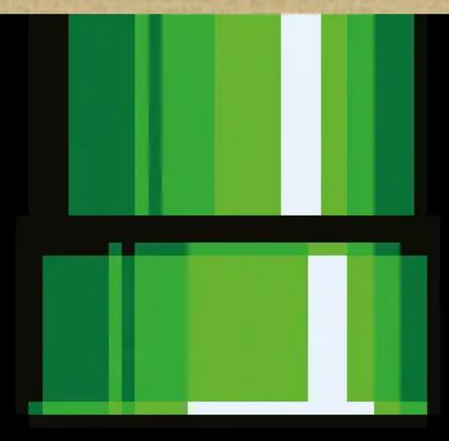

PARA-BOMB
SUMO BROTHER
PIXEL PERFECT
VOLCANO LOTUS
MASK KOOPA
AMAZIN FLYIN' HAMMER BROTHER
NINJI
DINO RHINO
POKEY
MEGA MOLE
CHARGIN' CHUCK
BANZAI BILL
REX
YOSHI
KOOPA
MONTY MOLE
PIRHANA PLANT
WIGGLER
DINO-TORCH
MUNCHER

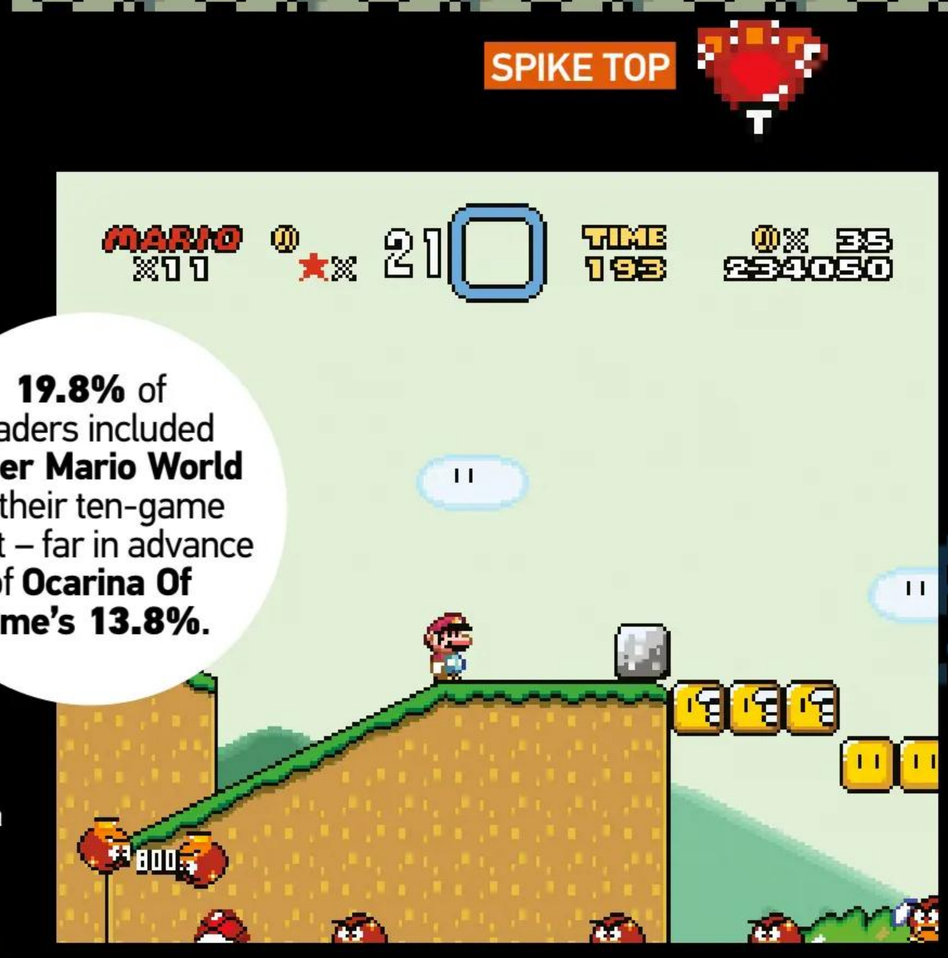
GAME BOY ADVANTAGE

Super Mario World only has one non-emulated conversion and Super Mario Advance 2: Super Mario World is certainly interesting…

When Nintendo chose to bring *Super Mario World* to the Game Boy Advance back in 2001, it came across with a variety of changes. The most notable of these is related to Luigi. As well as using his revised sprites from the *Super Mario All-Stars* edition of *Super Mario World*, he's got his high jump and slippery run back from previous games. Other characters have also had a graphical touch-up, and the visuals have been brightened all-round due to the lack of a backlight in the original Game Boy Advance model. While the music has all been retained, there are definite differences in sound due to the differences in sound hardware between the SNES and Game Boy Advance. However, Mario, Luigi, the Koopalings and the Boos have all gained voices. There's also a brand new intro sequence featuring Mario, Luigi and Peach.

In terms of game design, a few changes have been made – Dragon Coins have been added to stages that didn't previously feature them, and your spin jump protects you from more enemies than in the original. Once you've encountered a coloured Yoshi, you can find them in regular stages by finding an egg with certain power-ups. Additionally, if you've got the cape or fire powers, taking a hit won't send you straight back to your small form. The game can also be saved at any time. No matter which version you play, *Super Mario World* is an amazing game, but the changes may cause purists to stick to the original SNES version.





19.8% of readers included **Super Mario World** on their ten-game ballot – far in advance of **Ocarina Of Time's 13.8%.**

» *Super Mario World* offers visual cues – these slopes make the solution to this line of enemies obvious.

portly plumber gained a new companion in the form of Yoshi, a dinosaur that will grant him a ride and eat quite a few of the enemies that stand in his way.

The major innovation of *Super Mario World* was its structure. *Super Mario Bros.* had introduced the concept of multiple stage exits with its Warp Zones, and *Super Mario Bros. 3* had introduced a world map to the series. What *Super Mario World* did was to combine the two concepts into a non-linear experience. Whenever a stage had more than one exit, there was usually a good reason to seek that extra exit – at the very minimum it could lead to a secret stage, but it might also lead to a warp or even one of the game's Switch Palace stages. When completed, each of the four Switch Palaces activated appropriately coloured blocks throughout the game – you could tell where they were meant to be thanks to the appearance of their coloured outlines. Often they just made things a little easier by blocking off pits or providing extra platforms, but occasionally they would be crucial to making progress.

In retrospect, *Super Mario World* is surprisingly economical with its resources, given its status as a showcase game for a new console. Take the game's music as an example – Koji Kondo's soundtrack makes excellent use of theme and variation. When you first hear the overworld music, you get your first experience of a melody that persists throughout the game, forming the basis for almost every piece of action music from the underground and underwater stages to the castles and ghost houses. Likewise, while it's always visually enticing, *Super Mario World*'s wealth of levels means that it inevitably reuses backgrounds and objects frequently. What's more, the game makes sparse use of the console's advanced graphical features – where other designers might be tempted to design in such a way that highlights them, transparency and Mode 7 scaling and rotation are only deployed where they make sense in the context of the game design.

That's the real genius of S*uper Mario World*, though – it is a textbook example of a design team managing to make a lot from a little, because fresh ideas are never in short supply. You can take the scenic route through the game, taking in as many stages as possible on the way to the climactic fight with Bowser, and never encounter the contempt that repetition breeds. When you encounter a tense section in which you hop between moving platforms as buzzsaws hurtle towards you, that's the only time it'll happen. Even late in the game, you'll find new ideas, like a maze built from overlapping

» Mario's new dinosaur pal stomps enemies efficiently, but gains far more from eating them.

BUZZY BEETLE

WIZARD

THWOMP

» Blargg is a sneaky foe, checking that you're approaching before it emerges from the lava.

» Secret exits are the key to *Super Mario World*'s long-term appeal (pun definitely intended).

PORCU-PUFFER

BLURPS

RIP VAN FISH

THE SHORTEST ROAD

Do you want beat this classic, but are pressed for time? Worry not – with this guide, you'll have the game finished quick

1 Start with Yoshi's Island 2 and play normally until you reach Donut Plains 1. Once you get there, grab a cape from a Super Koopa. Use it to fly to the key near the end of the stage for a secret exit.

2 In Donut Secret 1, you'll need to find another secret exit – you can do this by finding a P Switch, then using it to turn these blocks into coins so you can retrieve the key from the Question Block.

3 Donut Secret House has a hidden boss fight – you'll need to trigger this vine, pictured above, then use a P Switch to reveal a door at the top. Beat the Big Boo and you'll gain access to Star Road.

4 Beat each Star World stage by finding its secret exit. In Star World 2, you can acquire a blue Yoshi which gains the ability to fly when its mouth is full – make sure you leave the stage with it.

5 In Star World 4, use your Yoshi to fly beneath a section of blocks to reach the exit. You can now access Bowser's Castle and beat the game, having seen just 12 of the game's 72 stages.

"Super Mario World is surprisingly economical with its resources"

layers of moving rock. Those ideas which are re-used, such as the new puzzle-centric Ghost House stages, are presented in ways which leave each encounter feeling distinct.

What's all the more surprising is that this level of creativity is found in the series' fourth game. Some of it can be attributed to the power of the SNES allowing the designers to do things that had previously proven impossible, and the addition of a save battery certainly enabled the enormous game world to be realised. However, credit must also go to the development team for breaking new ground when it would have been easy to just provide a slightly prettier version of what had gone before.

But *Super Mario World* was all the more special because it represented the end of an era, as the last traditional 2D *Mario* platformer to hit a home console for many a year. *Yoshi's Island* was a marked departure from the traditional Mario style, and Nintendo took its mascot into the world of 3D for his next major console game. By the time Mario's side-scrolling adventures returned in the *New Super Mario Bros.* series, traditional pixel art and chiptunes had been left behind and things never quite felt the same.

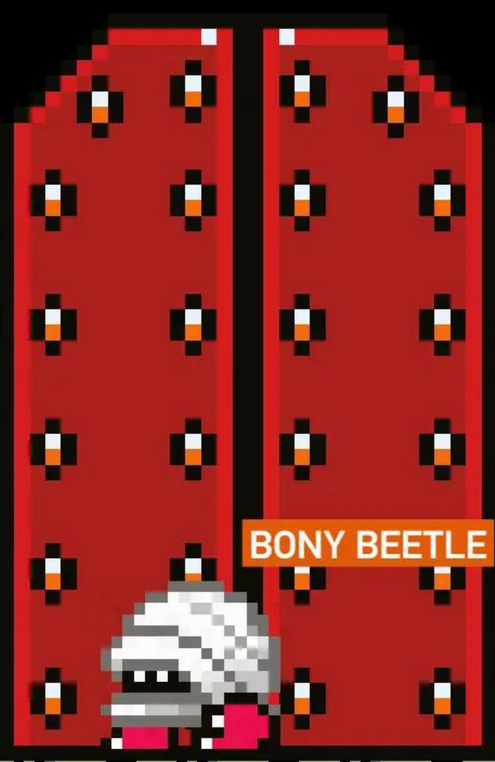
According to your votes, *Super Mario World* is the greatest game of all time. It's not hard to see why, because it comprises all the things about gaming that people love. It looks nice, sounds wonderful and is masterfully designed, offering players an experience that can be enjoyed in whichever way they prefer. If you want depth and discovery, *Super Mario World* can give you that. If you want to make your way to the end as quickly as possible through brute force, that's allowed too. It represents familiarity, as a sequel featuring one of the most recognisable characters not just in gaming, but in all of pop culture. However, as a launch game, it also represents the thrill of new things – that unforgettable rush of excitement you experienced when you saw hardware doing things you'd never thought possible, and the unbounded possibilities that presented themselves in your mind as a result. It's a game that can be – and has been – enjoyed by players of all ages, from all over the world.

Shared nostalgia is what brings us together as retro gamers, and according to you lot, no other game appeals quite so broadly. All hail Mario – the King Of Games.

» Hanging off a dangling rope while avoiding buzzsaws is a unique thrill – it only comes up once.

» The boss themes use the same melody as the action stages, but they feel completely different.

» Ghost Houses typically offer simple obstacles but tricky navigation, requiring brainpower over quick reflexes.



Q&A: ROBERT FENNELL

Known online as GreenDeathFlavor, this speedrunner shares his insight on demolishing Mario's finest game

When did you first encounter *Super Mario World*, and what did you make of it?

My first encounter with *Super Mario World* happened in 1992, when we got a Super Nintendo and my siblings and I were playing in the living room. I was a Mario kid – we had all of the *Mario* games. My best *Mario* memory is when I was first in our house to beat *Super Mario Bros.*.

What's your fastest completion time for *Super Mario World*, and how did you achieve it?

My fastest completion is in 9 minutes 47 seconds (9:47.58). I acheived that in January 2015, breaking a tie between myself and dram55 when we both had a personal best of exactly 9:48.98.

The run was done using a glitch in the game known as the 'cloud glitch'. When Mario collects a coin that Yoshi is about to eat, it gets replaced by the next available sprite, in this case, the Chargin' Chuck. Chargin' Chucks have the ability to give power-ups when eaten. In 2014, it was discovered that you can eat a Chargin' Chuck as small Mario and the game will give you a Lakitu cloud. The Lakitu cloud is useful because it can manipulate Bowser in the Bowser fight, making him stop instantly when it's moving off-screen to the left. This means you can complete the final battle up to a minute faster.

In January I finally got a solid run with a good Bowser battle which resulted in a new record which has stood for ten months now, but is beatable. The record could very well come down a full second or more with a perfect run.

Why is *Super Mario World* such a good game to speedrun?

I believe it's a good game to speedrun because it's a relatively easy game to learn. A lot of levels are beatable by just flying over them. There's also a lot of variety with this game. If you're looking for a fast easy run you can do any level. If you're looking for something a bit longer you can do no Star World. Of course, there's 96-Exit where you beat every level in the game. You could even challenge yourself with the no cape category.

What techniques are essential for any *Super Mario World* speedrunner to succeed?

You should play through the game a bit to get used to the game and its physics. Then practice every level and watch videos to learn new strategies. New runners can find videos for every level on smwwiki.com. I like to use a lot of visual and sound cues. I think it's important to find these cues for executing moves with tight input windows. When you have all the basics down you can begin to study and learn glitches if your goal is to get a fast time.

If you really get into *SMW* speedrunning and learn everything then it's all about the grind. You can't get record overnight, you need to put in a lot of attempts. When I first started I had times of over eleven minutes. It took me about a year and a half before I got world record in my category, so patience is definitely required.

BOSS RUSH

What kind of hero would Mario be if he didn't bring down a few behemoths on his travels? Here's a rogue's gallery of the miscreants he comes up against in Super Mario World

REZNOR

1 This quartet of fire-breathing triceratops stands atop a set of rotating platforms. You'll need to bump them from underneath, but watch out! Once you've knocked a couple of them from their platforms, the ground beneath you will start to give way. If you can't take out the remaining beasts, you'll need to hitch a ride on their carousel in order to finish them off. Oh, and if you were wondering, Reznor *is* named after the Nine Inch Nails frontman, Trent Reznor.

BIG BOO

2 Mario spends most of his time running away from these ghostly baddies, but the Big Boo resident in Donut Secret House is an aggressive sort. Unlike his compatriots elsewhere, he's capable of disappearing at will and is accompanied by a couple of regular Boos. You'll need to pick up Grab Blocks from below and throw them upwards at Big Boo, but they'll only hit when he turns visible. Three hits should be enough to see him off for good.

IGGY KOOPA

3 After battling your way through Iggy's castle, you'll encounter him atop a tilting platform, floating in a sea of lava. What follows is a deadly sumo contest, as you try to push him into the molten rock while he tries to toast you with fireballs. When you jump on him, he'll always slide downwards – so ideally, you want to time your hits for when he's close to the edge and it's tilting down. Fire Mario makes this fight a walkover, incidentally.

MORTON KOOPA

4 Your mere presence is enough to drive Morton up the wall – literally, as he runs towards the wall and then runs straight up it and onto the ceiling. Once he's up there, you'd better keep moving as he's going to try to jump down onto you. When he lands, turn the tables on him and jump on his head. He's the game's easiest boss, and a few hits will see this him off without much of a fuss.

LUDWIG VON KOOPA

6 Hey look, it's a throwback to the original *Super Mario Bros.*! Ludwig is much like the Bowser of old, standing on the right of the screen and breathing fire at you, but now he's got a twist – a spinning backflip which makes getting behind him less of a brilliant plan than it might seem. Jump on his head a few times and you'll see him off. Incidentally, Ludwig Von Koopa boasts one of the game's few non-repeated boss templates.

ROY KOOPA

7 Roy's fight is much like the battle against Morton, but harder – the walls are closing in, making for a claustrophobic work environment. He is defeated in exactly the same way.

LEMMY KOOPA

5 Lemmy is quite happy to try to trick you rather than attack you directly, momentarily emerging from pipes while employing two decoys. The only threats here are the fireball lazily bouncing around the screen and the time limit, although the pipes make movement slightly tricky. Jump on Lemmy's head three times and you'll defeat him.

WENDY O. KOOPA

8 Wendy shares her brilliant plan with the hare-brained Lemmy, substituting the uneven pipes for a second bouncing fireball – so you face a greater threat, but with greater mobility. Jump on her head.

BOWSER

10 One of only two completely unavoidable boss fights in the game, Bowser has various angles of attack. He'll try to ram you with his flying machine, he'll drop fire on you from above, he'll roll giant metal balls at you and he'll lob Mechakoopas at you. The latter are important – to beat him, you need to immobilise them, then lob them upwards and on top of Bowser. After a couple of hits, Peach will give you a mushroom. Then rinse and repeat!

LARRY KOOPA

9 Larry has borrowed that fancy tilting platform from Iggy, and he's hooked up the lava fountain to spit up some nice deadly fireballs too. Give him a nice hot bath.

100 GAMES TO PLAY BEFORE YOU DIE

DEFENDER

One of the most ruthless blasters to hit arcades, Defender is the sort of game that puts hairs on your chest (even if you're a girlie). Eugene Jarvis chats to Craig Grannell about the title that started him off, detailing Defender's rise from a wannabe Space Invaders clone to the iconic game we know today

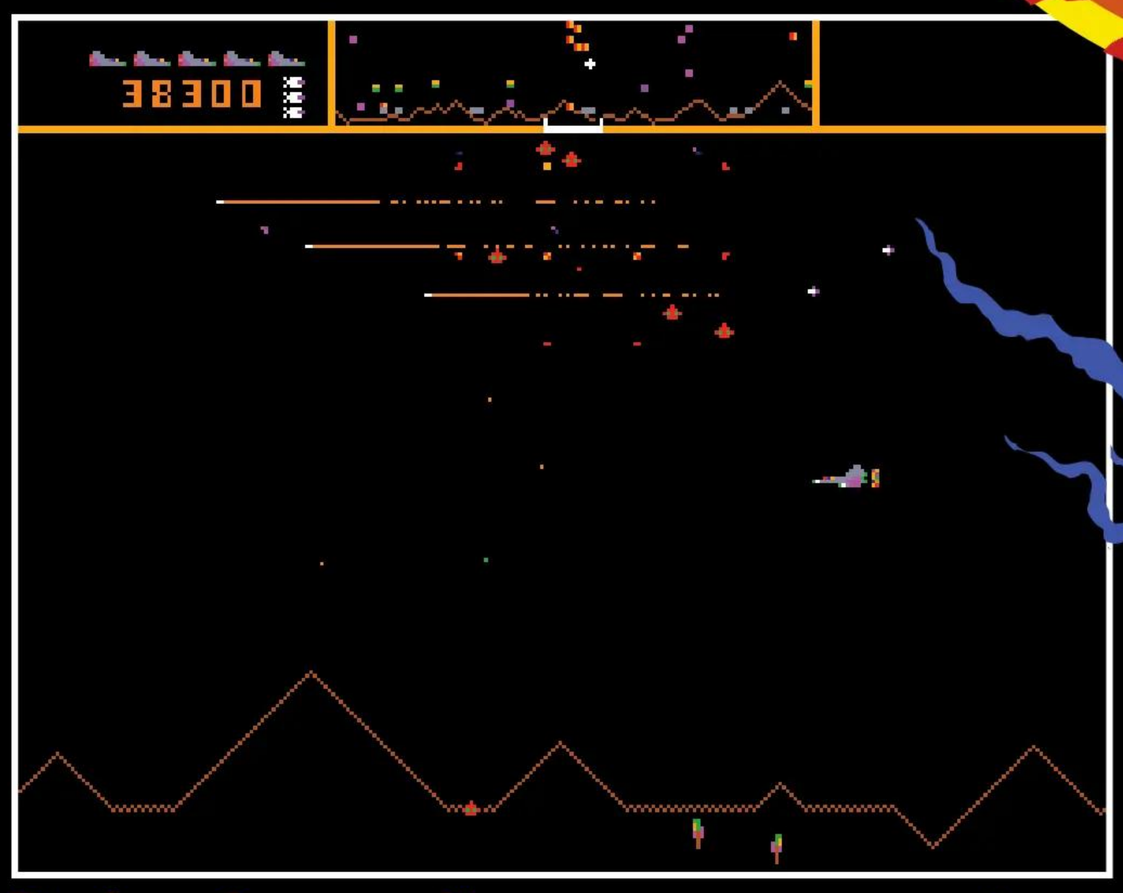
It's hard to imagine a time when every game – no matter how simple the concept – felt fresh and new. But it once existed. Take, for example, *Defender*, designed by gaming legend Eugene Jarvis. For the uninitiated (and if you're one such person, are you sure you're reading the right magazine?), *Defender* is a wraparound side-scrolling shooter, with a small cast of deviously designed enemies, and a defend-and-rescue theme. The aim is to stop Lander aliens making off with your small crop of humans, carelessly exposing themselves on the stark planet's surface. When a Lander snags a human, it rises to the top of the screen, consumes it, becomes a crazed Mutant, and comes after you. Lose all your guys and the planet explodes, driving the point home that you're rubbish and that *Defender* is one tough cookie.

In these enlightened times, we've seen hundreds of side-scrolling shooters, but when *Defender* appeared, it was so revolutionary, so different, and had such complex controls that many assumed it would flop. But eventual strong sales and many sequels and remakes (see Stuart Campbell's The Definitive Defender in issue 29 for an overview) subsequently confirmed its legacy.

However, it's the original *Defender* that excites gamers most, with its mix of relentless, ruthless enemies, fine-tuned controls and on-a-knife-edge gameplay. What its fans perhaps don't realise is that *Defender* wasn't as original as it seemed at the time, and it evolved from an early game mash-up. "I was strongly influenced by *Space Invaders* and *Asteroids*, and thought we'd put the two together and create an even greater game," laughs designer Eugene Jarvis, amused by the naivety of his younger self. "But the practical realisation of that was a real pain in the ass…"

First, hardware considerations caused problems. "Back then, games were black and white, with plastic transparent overlays for colouring different screen elements," he says. "So we thought, 'What's the future here?' We decided four colours would be enough, but we wanted this system to be for the future, so we did 16. I mean, who would ever need more than that? Sixteen colours was way more than would ever be utilised in a game."

Resolution was boosted from the industry norm of 256x256 to 320x256, because "screens are wider than



» Lacking the grunt of its arcade parent, the flicker-fest that is the Atari 2600 version replaces the pixel-line landscape with skyscrapers.

they are tall, so this gave us a better aspect ratio and the potential for a better-looking game". Also, due to the team "not really knowing anything about hardware", the decision was made to utilise a system that moved objects in software rather than hardware – commonplace today, but rare at the time. "The computer had to write the pixels to the screen for every object, which was costly, meaning we couldn't put much on the screen," explains Eugene. This fact alone drove various design considerations for *Defender*.

We ask Eugene how *Defender*'s gameplay came to be, and he notes how games were so simple in that era that you could throw a concept up on the screen in a couple of weeks and play with it. He recalls various concepts were trialled, with the first basically being a *Space Invaders* rip-off. "You moved a little missile base, but instead of just shooting upwards, you had buttons to shoot diagonally! We thought this was going to be the greatest thing ever, but after a week or two we figured out that it wasn't much fun [laughs]."

"The original Defender excites gamers most, with its mix of ruthless enemies, fine-tuned controls and on-a-knife-edge gameplay"

For the next iteration, Asteroids was wheeled out. Unfortunately, Eugene's hardware was raster-based, hampering the graphics. "We wanted to have an *Asteroids*-type ship that would rotate, but it looked rubbish, because you'd rotate it and the pixels were all jaggy," recalls Eugene. "So we thought we'd make it round 'cause if it's round and you rotated it, nothing could go wrong."

Unfortunately, this cunning plan didn't lead to the mega-game the team hoped for. "We had this cursor that moved around and showed where you were going to shoot. We fooled around with this for a few days before figuring that it sucked," says Eugene. "We realised *Asteroids* without the vectors and spinning thing was just a bad version of *Asteroids*…"

The team also recognised that the main problem was that many of their ideas were simply too derivative. After a brainstorming session, the team decided one of the coolest aspects of playing *Asteroids* was flying off one side of the screen and appearing on the other – the wraparound effect. "We thought you could have a game where you'd fly off the screen, but it would kind of scroll, and you'd keep flying into a bigger universe," remembers Eugene. "That might seem obvious now, but most games in that era were on one screen, and so we thought it'd be very exciting to fly into a larger world."

IN THE KNOW

» **PUBLISHER:** WILLIAMS ELECTRONICS

» **DEVELOPER:** WILLIAMS ELECTRONICS

» **RELEASED:** 1980

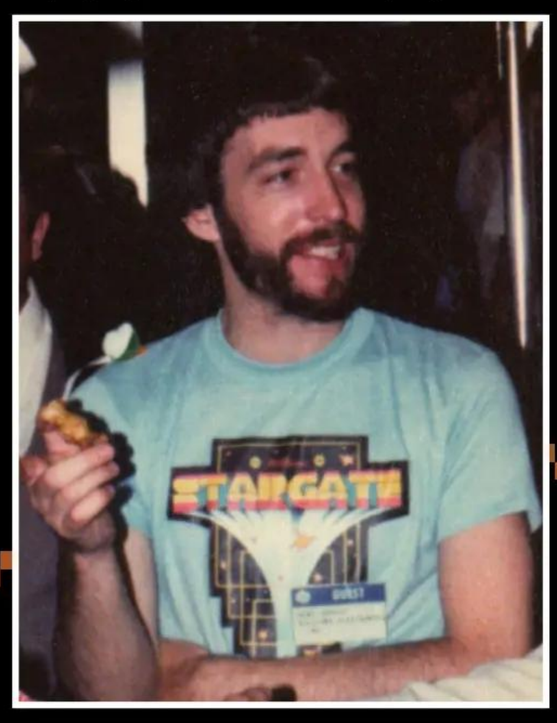
» **PLATFORMS:** ARCADE; LATER CONVERTED TO VARIOUS HOME SYSTEMS

» **GENRE:** SHOOT-'EM-UP

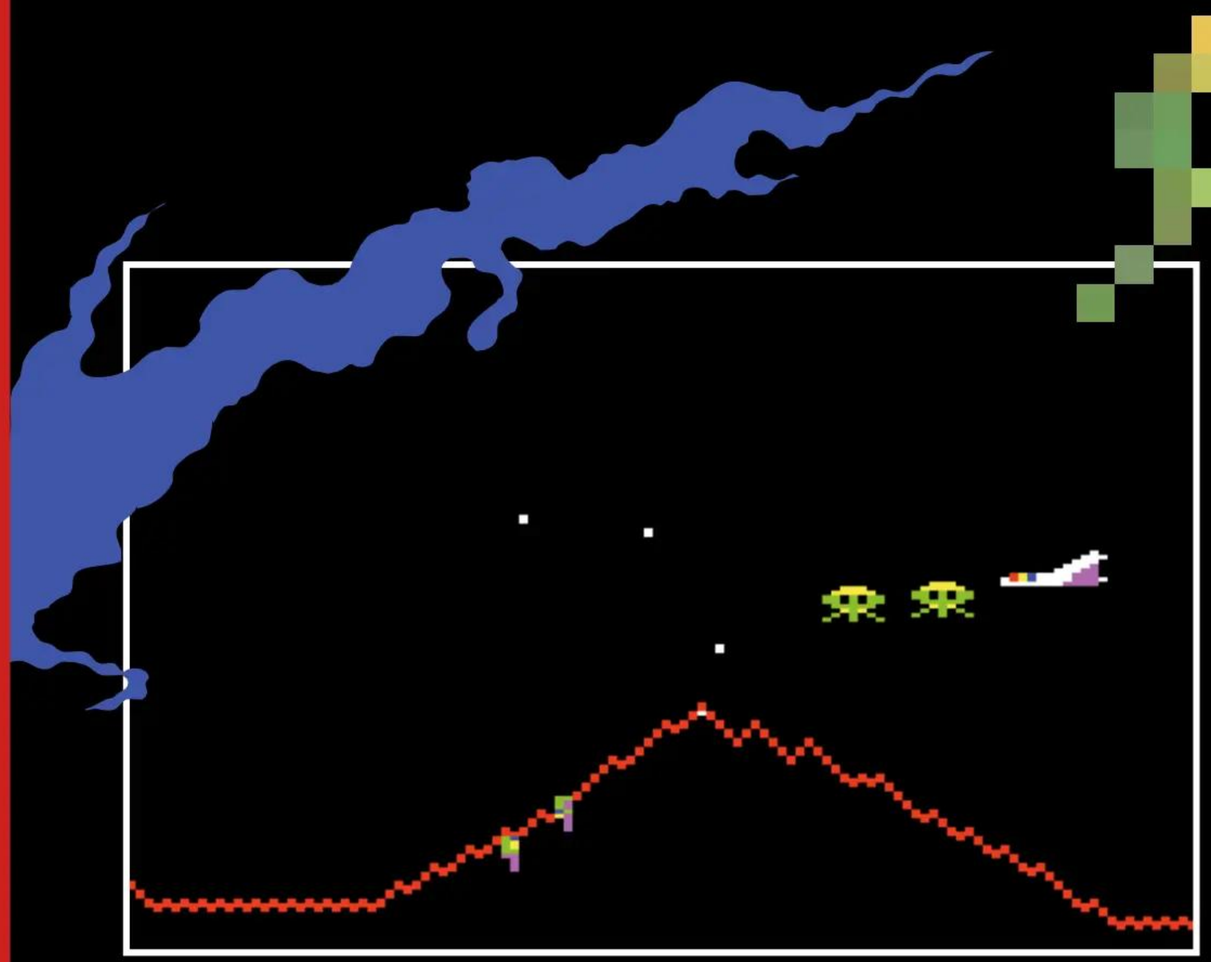
» **EXPECT TO PAY:** £500+ FOR A WORKING CABINET

» Dull clones like *Annihilator* lack the defence and rescue components of *Defender.*

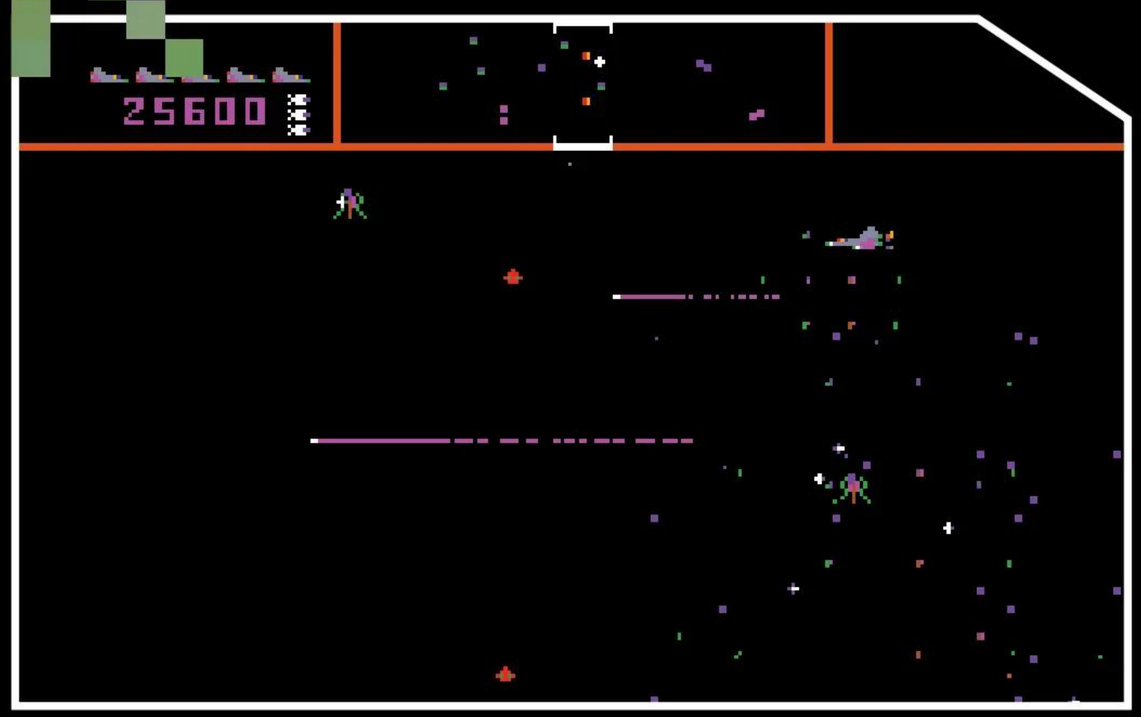
» A young Eugene Jarvis shows off his natty *Stargate* T-shirt.



» Judging by the landscape, you may well be defending a sparse Egypt. At least there aren't any tourists.



» Strangely, the best home conversion wasn't official – it was *Planetoid*, a clone for the BBC Micro, which aped the arcade game's brutality, controls and special effects.



» Pausing momentarily to admire the beautiful particle effects, the pilot suddenly realised two Mutants were about to get him.

THE CAST OF DEFENDER

Your ship: It can fly through the ground and catch falling humans, but one hit from a hostile and it will explode.

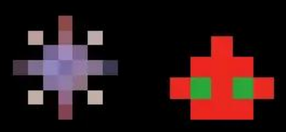
Humanoid: Ten humanoids litter the landscape, awaiting capture by Landers. They're annoyingly unarmed and blasé about the whole thing.

Lander: Landers teleport in and descend on humanoids. If they capture one and reach the top of the screen, they fuse to form a Mutant.

Mutant: These creatures move erratically and home in on your ship, firing projectiles.

Baiter: The speedy aliens home in on you with speed and accuracy if you hang around a level for too long.

Bomber: This cube-like alien lays stationary mines that float in the air.



Pod/Swarmers: When shot, the sluggish star-like Pods burst into packs of tiny Swarmers, which fire projectiles and move in an oscillating fashion.

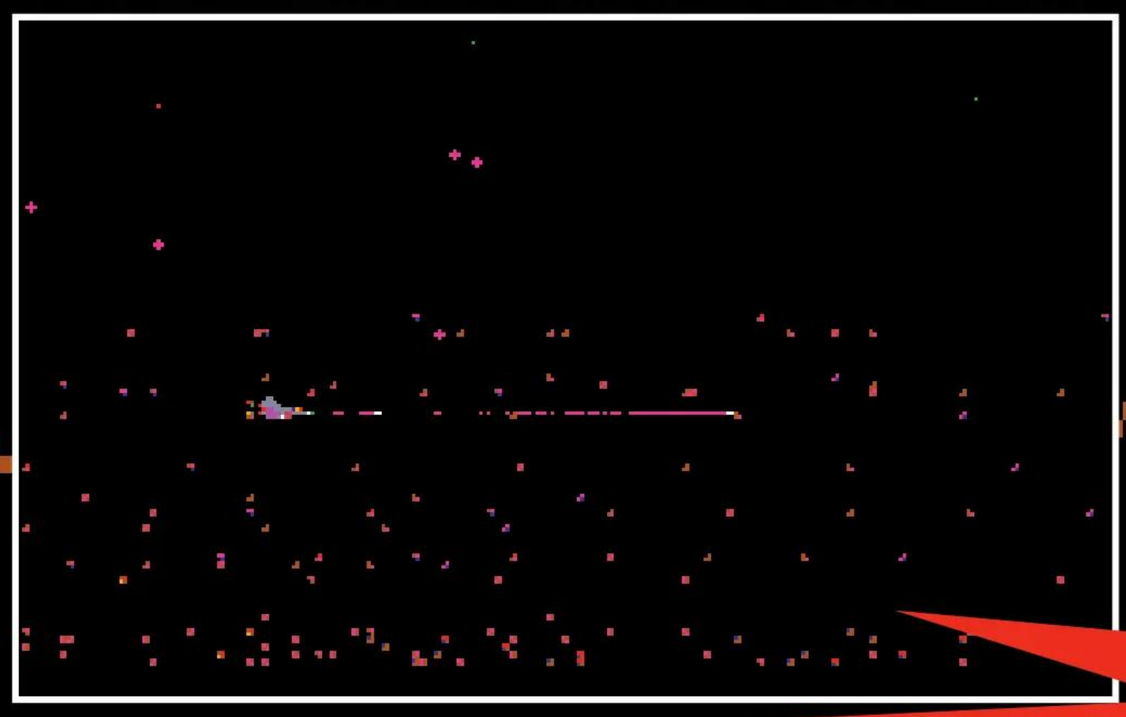
Eugene's game had the initial spark it needed. The decision was made to fly horizontally only, to avoid the rotational problems of raster graphics, and then to take *Space Invaders* and flip it on its side. "You moved your ship up and down with the *Space Invaders*-type control as you flew sideways, and that provided the impetus for the layout – the basic geometric formation of *Defender*," says Eugene. "We then threw some stuff out there. Originally, there were supposed to be *Asteroids* rocks – you'd shoot the rocks and they'd make little rocks. Horizontally scrolling *Asteroids*. And that wasn't much fun. It was like: Man, this idea of making a videogame is a real pain in the ass [laughs]." By this point, the team had spent six months working on the project, and, in Eugene's words, it still sucked, but it was fun flying around the landscape. Eugene's friend Steve Ritchie, working at Williams on acclaimed pinball titles, suggested the player should be able to fly in both directions, an idea that was duly implemented. "But there still wasn't any real game there, and so we had to get back to the basics of what makes a cool game," says Eugene. "In that era, games were really about survival, which is certainly the most powerful human instinct."

» Eugene Jarvis proves he could happily have worked for *Zzap!64* during the Eighties.

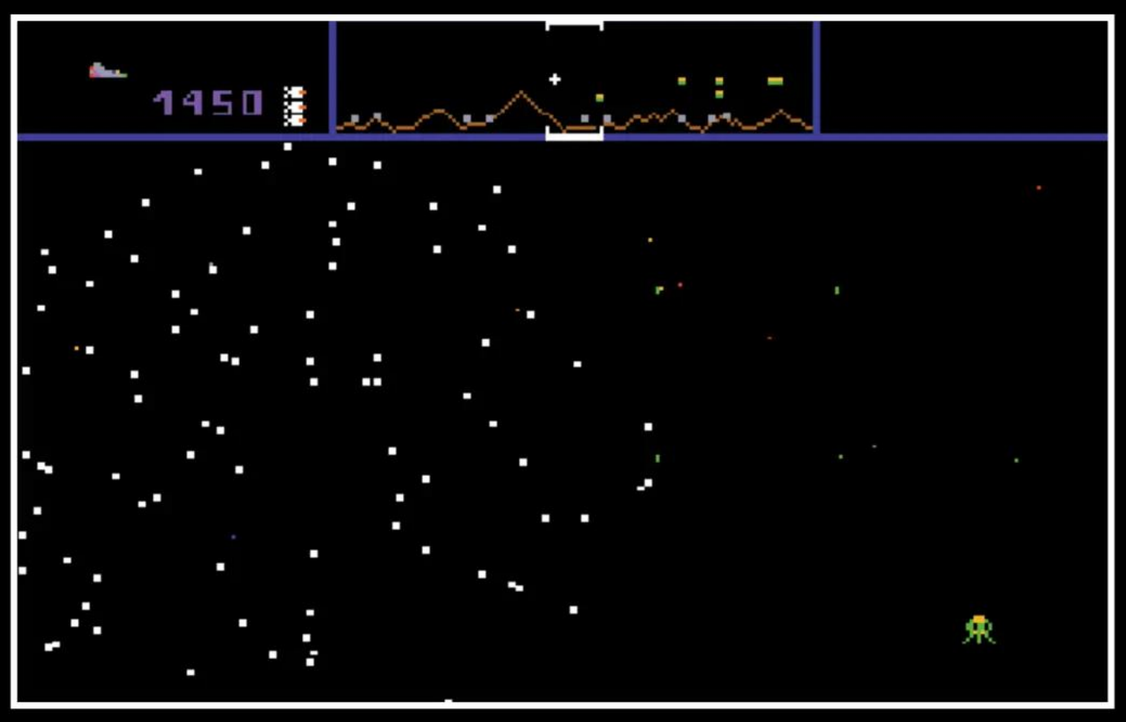
Eugene realised the player needed a suitable threat: "You can't have a world where nothing's wrong – there's no challenge, no threat, no bad guy. In *Space Invaders*, you had the invaders – they came down, dropped bombs and killed you – they were mean. We needed some enemies…"

Somewhere along the line, the game received its moniker, *Defender*, and although the reasons for this are largely lost, Eugene reckons it was influenced by the idea that if you want to commit a lot of violence, you need to be justified

» Even the more playable home ports, such as the depicted C64 release, lacked the arcade game's speed and effects.



» Presumably those humanoids were holding dead man's switches, because now they're gone the entire planet's blown up.



» Boom! The ship explodes into a ball of particles. Get used to seeing this happen a lot when you first play *Defender.*

» Our hero flies low to blow up a cluster of Swarmers, no doubt causing a 'friendly fire' incident at the same time.

in doing so by defending something. This way of thinking led to the team's next major breakthrough. "We knew we needed to make the game more complex and interesting, and so we added friendlies that weren't you," says Eugene. "This added depth to the play mechanic, because you weren't just blindly shooting everything in sight, which gets monotonous – just killing, killing, killing, like manning a fire hose."

Now, there was something to defend. A planet was added, depicted as a line of pixels, due to hardware limitations – "Maybe half the real-time was dedicated to just writing this little line on the screen," says Eugene – and the Lander was introduced as the first bad guy. "All of a sudden, the game got interesting: you had a purpose, you were trying to protect these guys, and you had an enemy," remarks Eugene. "But it still wasn't that exciting."

Although modern games are regularly criticised for placing style over substance, Eugene reckons it was the visual effects implemented by Sam Dicker, an 18-year-old self-taught programmer, that suddenly lifted *Defender* to a whole new level: "A lot of the game's excitement comes from the visual effects. Sam's genius was in making these particle effects – at the time, we didn't know the term – whereby an interactive explosion was created upon shooting a bad guy."

With explosions being created algorithmically, they changed depending on where bullets hit the Landers, resulting in a visual feast of on-screen fireworks. This was in marked contrast to the more typical canned 'blam frame' most games used. "That's so boring, because no matter how and where you kill something, it's always the same," says Eugene, who likens Sam's effects to watching the surf – like waves, each explosion is unique. "It gave *Defender* an otherworldly feel. You'd be mesmerised when shooting three or four Landers at the same time, watching them blow up this way and that, and dancing around in this ballet of destruction."

On a roll, the team took things further. Landers started grabbing humans, taking them to the top of the screen, consuming them and turning into psycho Mutants that homed in on your craft with alarming speed and accuracy. Although this made things tougher for the player, the mechanic of capture added a rescue element to the game. "After a Lander captures a human, you have this chance to get around the world, shoot it and save the man," says Eugene.

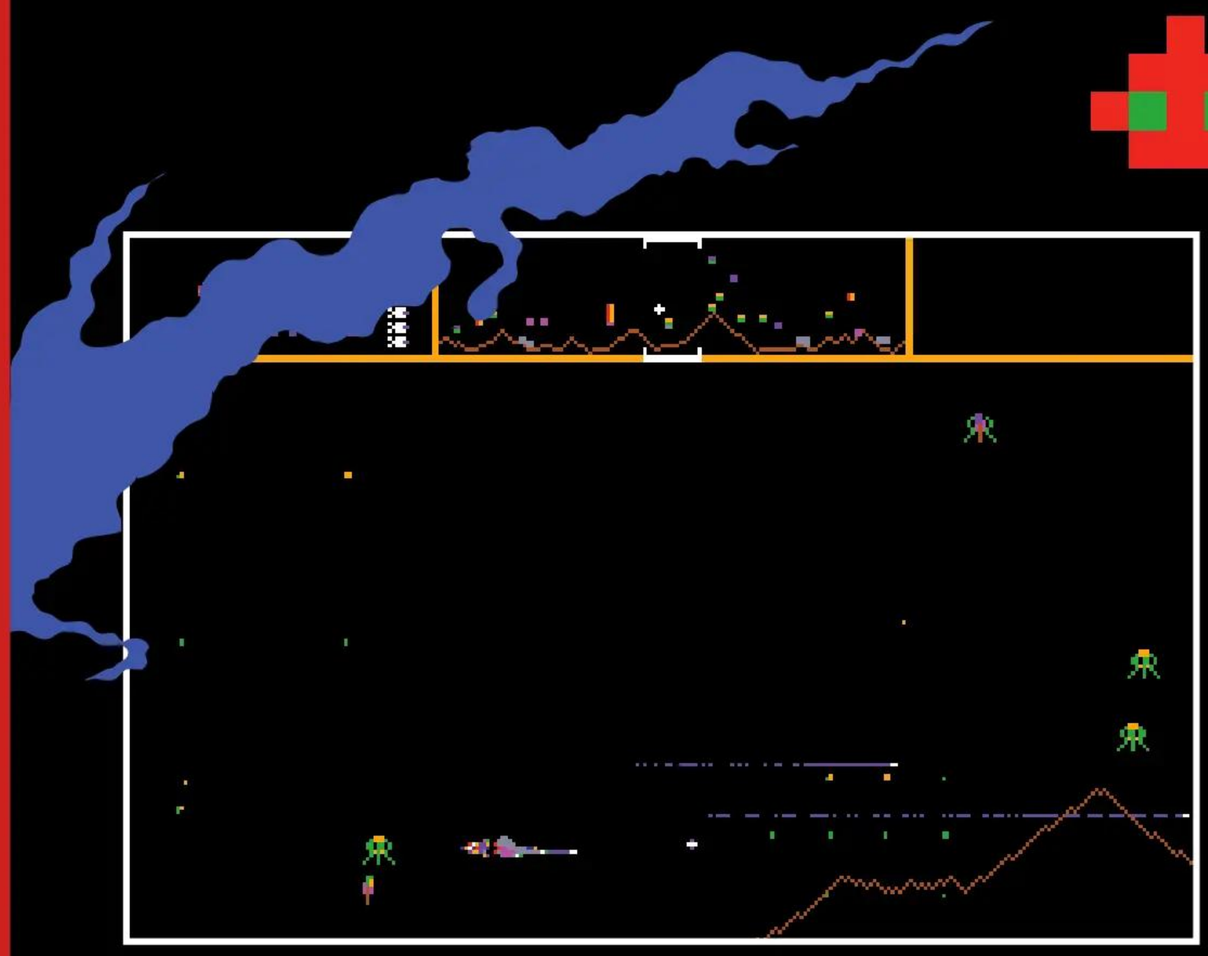
This shift from shooting to defending to rescue aligned with Eugene's philosophy that the best games are those that enable you to make a comeback, rather than merely offering an "inexorable downward slope towards your inevitable death". This idea of redemption after screwing up, possibly via some heroic measure, found its way into other areas of the game. When all humans are gone, the planet explodes, leaving you surrounded by hostile Mutants, but every five rounds, the humans and planet are restored. "A player needs a chance to make a comeback," says Eugene. "Life is like that – ups and downs – and this cyclical feel makes a game more interesting, and ensures it's never hopeless. That feeling a gambler has, knowing there's always a

DEVELOPER HIGHLIGHTS

NARC [PICTURED]
SYSTEM: ARCADE
YEAR: 1988

SMASH TV
SYSTEM: ARCADE
YEAR: 1990

CRUIS'N USA
SYSTEM: ARCADE
YEAR: 1994



» Landers and Mutants converge on the weary pilot, who really wishes he'd become an accountant.

PUNISHING PLAYERS

"Luckily, I wasn't a great player, otherwise *Defender* could have been really hard," jokes Eugene about his game's notorious difficulty level. "It was part of that era to completely humiliate a player and grab their money, creating this anger where they'd want to put their foot through the glass, but then decide they were going to beat the game."

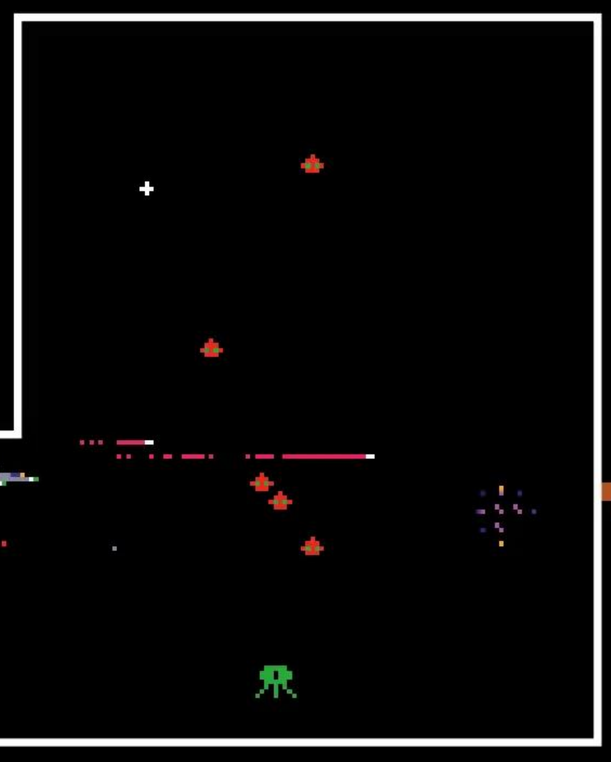
According to Eugene, the controls were the main obstacle for most: "It was so new, and no one had really done a game where you flew horizontally through multiple screens. Many thought they were playing sideways *Space Invaders*."

But Eugene admits it was perhaps too tough: "When you're designing a game, you get a warped sense of the ability of the average player. You assume because you're fairly good, you should make it harder. Games designers often err in making games too hard, but luckily in that era people saw it as a challenge to try to conquer a tough game."

chance of hitting the jackpot with his last dollar – that's what keeps you going."

Because, in Eugene's words, "you get tired of shooting the same thing after a while", the Landers were joined by some allies. First came the Bombers, aliens that lay stationary mines in the air. "It's interesting how the laws of physics are malleable in *Defender* – men fall to their deaths, mines float, and the ship can fly through the ground," says Eugene. "But this supports the gameplay by being flexible, instead of imposing a rigid set of mechanics that would have resulted in a sterile and restrictive game."Subsequent enemies were designed to create new elements of play. Pods and Swarmers have different patterns of flight to Landers and come after you, rather than ground-based humans. Baiters, a hostile alien that can't be outpaced, were a reincarnation of the *Asteroids* saucer, designed to stop players lingering on a level. "They're a challenging enemy, and really great players can sit there and challenge them forever," says Eugene. "It's maddening for less-skilled players, but it added another element and created that time pressure, which was a big thing then – putting the player into a vice and slowly tightening it, ramping up the intensity." Along with offering new gaming experiences on the screen, *Defender* provided unique controls, which often seem alien to modern gamers. Eschewing a four-way joystick, *Defender* uses a *Space Invaders*-like control to move the ship up and down, but buttons for forward thrust and reversing direction. "*Defender* was maybe the first side-scrolling shooter game, and it was based on playing *Space Invaders* with your left hand and *Asteroids* with your right," explains Eugene. "It was amazing how once you'd played *Asteroids*, you had to use the same buttons – players were programmed where thrust was on the left and fire was on the right." Eugene compares the thinking behind *Defender*'s controls to designing cars, saying there's always a language to controls found in the past. In the same way an Eighties Ford wouldn't suddenly switch the brake and accelerator, Eugene wasn't about to make things difficult for players. However, he does admit that the original feeling was to put a four-way joystick on the left hand. "The thing is, a four-way directional controller was a new idea in arcades at the time, and we couldn't find a reliable mechanism," he says. "So we threw in a button to reverse, and it actually feels better to me. When playing *Defender* on a console with a four-way joystick, it doesn't feel right. There's something about the reverse button – you can just slide across the screen, and you get more control… And it was also very cost-effective."

Although the controls and difficulty caused Defender to initially be dismissed as too complex, it eventually sold over sixty thousand units, and is one of a handful of truly iconic arcade games. "I think *Defender* has longevity because there's so much randomness," says Eugene. "Every spaceship has its own little brain from a sequence of random numbers and a small amount of intelligence, and so each game is different. Ships come



» Lesson one in why letting the planet blow up is bad: hordes of screaming Mutants will kill you.

» The more people mess with the pure original vision for *Defender*, the worse it becomes, as this dreadful Game Boy Advance effort from 2002 confirms.

in different patterns, in different ways and at different times, and shoot at you in different ways. This, along with the physics-driven explosions, keeps the game fresh." He also notes that *Defender* offers a mix of adversaries, each with their own agenda and dynamics, along with different playing modes. "When the planet blows up, everything is a Mutant and the gameplay is almost completely different," he says. "And then there's the progression of difficulty, which provides great suspense, but that sense of redemption, where if you can just survive a couple more waves, everything will be okay. Instead of a straight line of progressive difficulty, *Defender* offers a rollercoaster of emotions… Plus, I think there's maybe something about flying at breakneck speed through all this crap exploding left and right, getting a rush from the path of destruction." As the interview draws to a close, we wonder if there's anything else Eugene would like to say about his classic game, and this leads to the subject of bugs, which he considers some of the really interesting aspects of *Defender*, notably the invisible lines that join the wraparound universe. "At that point, the enemy-seeking algorithm doesn't work. If Mutants are chasing you and you cross this invisible line, they'll start running away," he says. "Great players can exploit this, grouping Mutants, making them run away, then making them come back and blasting them all." Other enemies have different invisible lines, and Eugene reckons this created an interesting richness that wasn't programmed. "Enemies suddenly start running away, and you go after them and they then come back after you," he says. "Players anthropomorphise their motivations. You don't want to believe they're just a bunch of random numbers, so you call them 'scared' or 'mad'. To these little robotic creatures whose brains and intelligence are ten lines of computer code, you give human characteristics and moods. Some players are like, 'Man, the Baiters are pissed off today', and on another game, you kill them and it's like, 'They were afraid – I could see the fear in their eyes'." Another aspect of *Defender* was how it always ran on the bloody edge of running out of real-time, and a key design objective was to keep its crisp 60Hz frame rate rolling, ensuring no time-lag and responsive controls. "But if you explode a Pod with Swarmers in, the system momentarily bugs out, and the video gets highest priority," explains Eugene. "The system stops processing collisions, and you can use this to your advantage to fly right through things." He explains that seasoned players often fly round the world at breakneck speed, starving the collision detection of real-time, and appearing to get away with stuff mere mortal gamers can't.

This in many ways recalls what Eugene spoke of earlier – of creating an open system with few parameters and not controlling every eventuality. "This is why people are still interested in *Defender*. When you over-script a game like a control freak, you strangle the life out of it, and it becomes finite," concludes Eugene. "There's no interaction and no life. Even if it's amazing, you've seen it all, and it's the same every time. But the beauty of gaming is constant interaction and doing something meaningful, rather than just playing a video."

STARGATE AKA DEFENDER 2

In 1981, *Defender* got a sequel, *Stargate*, which Eugene refers to as a kind of director's cut. Brutally hard and more complex than *Defender*, *Stargate* split the audience. "With *Stargate*, we threw in a richer mix of enemies, things like warping, and a lot of interesting gameplay," explains Eugene. "But some preferred the purist adrenaline rush of *Defender*."

Eugene is split on the games. "Once you've spent a year playing *Defender*, *Stargate* is interesting, and it's deeper," he says. "We refined the routines, so we could get more out there, and the game didn't bug out so much." However, he admits that upon returning to the games nearly 30 years later, *Defender*'s his favourite: "With *Stargate*, you need to know its idiosyncrasies – it's much more complicated. And after 28 years of braincell loss, *Defender* is kind of like 'just give me the basics.' Plus it may just be the fact that my *Stargate* is broken and my *Defender* works."

» The moment before an untimely death, with our hero surrounded by Mutants, Bombers, Pods and Swarmers.

» The radar at the top of the screen is a great way of keeping track of enemies and surviving humans.

MANIC MINER

Sat at the very desk where it was written, Matthew Smith watches Miner Willy leap through all 20 screens of his Spectrum masterpiece. Paul Drury holds the ashtray and takes notes

CENTRAL CAVERN

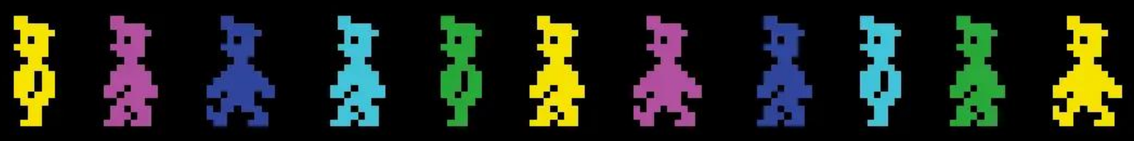
"This was the test screen, the first of everything," begins Matt. "The collapsing floors, conveyor belts, the jumps, the colour clash. Using two colours in the bricks of the solid platforms and then when you jump up on to the first platform, that's all testing for colour clash. It has one of all the difficult jumps in, too." How was difficulty determined, we ask. "From the end of the conveyor belt to the higher platform counts as a difficult jump… but I put in a safety net. I plotted it out on graph paper: two pixels and then a parabolic, acceleration down until you hit terminal velocity, at about four pixels a frame, then you started falling straight down. I'd do all the testing and see where you'd land." And what about the clockwork baddie on the conveyor belt? "Oh, just something I'd drawn. There's a bit of Yellow Submarine in him – that's where the mouth in the belly came from. The original sketches I did had water instead of conveyor belts. There were going to be streams of water and I was thinking about making it impossible to go backwards. That would make it more of a puzzle – working out how to get somewhere without going upstream – but by the time I started coding, they'd become conveyor belts."

THE COLD ROOM

Matt stares intently at the 'keys' on this level. "They're snowshoes. Well, tennis rackets." He then starts tapping the screen before we gently remind him it isn't a touchscreen. "Mmm, oh, right. I was just thinking about tweaking a pixel. I'm not sure if it would be better light or dark. I must have tried it both ways back then." Ever the perfectionist. And what about the shuffling birdies? "Everyone knows penguins are fully signed up members of the funny animals union." As Willy slowly descends the 'chimney', Matt chirps up, "For disintegrating platforms, I used the video memory of the Spectrum. It was the first machine I had with a bit mapped screen." We note that the Cold Room level is considerably easier than the previous one. "Oh, I didn't do the screens in order. No, I did the first screen first and then I think I made some attempt to sort the rest out and give a graduated gameplay. That's why the first screen is disproportionately hard, because it wasn't part of that scheme."

THE MENAGERIE

Matt scans the collection of creatures on screen. "Here we've got spiders, emus, well, ducks or something. Yeah, they're flying! Well, their feet are coming off the ground. They're having a go! Hang on; there are only two kinds of animal in there. That's a bit lame. There should be at least three before you call it a menagerie!" Matt's French may be questionable, but we wonder if the birds do signify another sort of love, that of a man for his footy team? "Yeah, you could see it as a tribute to Liverpool FC. They're not far off being liver birds and I'm definitely a red shirt."

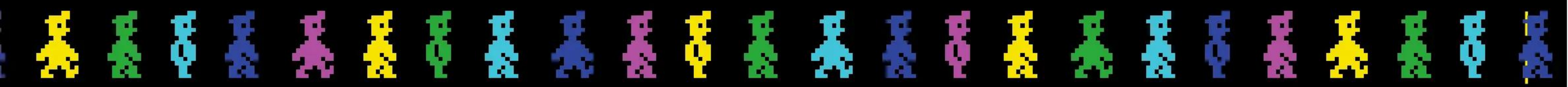


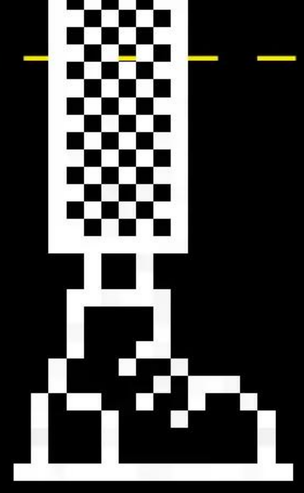
ABANDONED URANIUM WORKS

Matt denies this is a comment on the nuclear paranoia of the Eighties, though it did play on a very real fear. "It's a room full of difficult jumps and you have to go across it more than once. It was supposed to be scary, about testing your confidence." He starts to contemplate the nature of death. "Miner Willy is two characters high and if you fall four characters you're dead. Two, you're safe and three… hang on, was two deadly? Oh, I can't remember…" His memory works better when recalling how he coded Willy's famous leap. "The first two frames, you go four and four pixels, that's one whole character, then it's 3, 3, then 2, which makes eight pixels and another whole character. Then 2, 1, 1, 0, 0, -1, -1, -2, -2… it's a smooth curve rounded to the nearest integer." He grins and inhales deeply. And the performing seals? "Oh, I think that was because I had a six pixel rotating ball and thought, how am I going to make this into a character? I know, I'll stick a seal below it!"

EUGENE'S LAIR

So to the memorable snapping bogs of Level 5. "I was telling my little brother Anthony about the toilet monster that reaches up and grabs you. Yeah, he really believed there was a green monster that lived down there," chuckles Matt maliciously. Not a comment on fellow coder Eugene '*Wacky Waiters*' Evans' career going down the pan, then? "I'd met Eugene a few times. We were passing acquaintances. He'd hit the press before me and he played the media darling far more thoroughly than I did. Must have been jealousy, because he was working for the 'other' company, Imagine and I was still aligned with Bug-Byte when I was doing this. And they were buying flash cars first and writing good games second. Actually, I'd have got more trading in a smashed up sports car than I've had from any residuals." Are those gold bars Willy is collecting? "Nah, they're supposed to be stacks of credit cards. I had a choice of putting in a line to show they're stacked."





PROCESSING PLANT

An obvious homage to the arcades of Matt's youth. "Yeah I used to play *Pac-Man* at the Unit 4 cinema in Wallasey." ("Don't look for it, it's not there any more" – *Spinal Tap*, ed). The addition of legs was a feeble attempt to avoid copyright infringement, perhaps? "Oh, I think we were all relying on the American 'Fair Use' provision, though thinking about it, that didn't actually exist in British law at the time. No, there were spare pixels free at the bottom. It had to be ten pixels wide to make it scroll smoothly and because it's round, it's got to be ten high, when everything else is 16, hence the legs." We note the level requires some tricky traversing along platforms with restricted headroom. "Yeah, I was designing routes by this time. I usually tried to get you to go across the screen as many times as possible, which makes things more interesting," cackles the evil genius.

THE VAT

Given Matt's on-off relationship with money over the years, we wonder if this is a reference to the Inland Revenue? "Nah, just a huge block of collapsing floors," he assures us. "Pure aesthetics really and no extra code needed. These collapsing floors were supposed to be one thing and I was seeing what else they could be. That's serendipity, that." And what of the kangaroo connection? He exhales and ponders for a while. "Erm, kangaroo meat? Dog food factory? Dunno… could be… random thoughts." With all the disintegration, it must have been an awkward screen to test? "With The Vat, I had my route and tested it over and over again. I didn't really know if there were any other routes. Some of these levels I've only ever done once, to this day. Same principle with the Banyan Tree in *Jet Set Willy.* There's no random numbers in the game. Every time you go into a level, you get the same start positions and speed, so if I can do it once then it's going to be a bit difficult for the good players." That's something of an understatement, Matt. "Quality control," he winks back.

MINER WILLY MEETS THE KONG BEAST

Another nod to the New Brighton arcades he frequented as a lad. "Barrels, bananas… I should have put hammers in and it would have been a complete tribute to *Donkey Kong*," he notes. It includes some testing jumps – "Yeah, some fives on this," Matt confirms, referring to the width of the gap in characters, "and they had to be pixel perfect." – and the first appearance of switches, though flipping both wasn't obligatory. "Maybe that was a mistake," muses Matt. "Maybe you were supposed to flick it to finish the level and I just completely forgot to test it." Then he has an epiphany. "Ah, no! The only violence in the game is completely optional! That's for if you feel a pathological compulsion to kill the Kong Beast. I think I was just being a hippy…" He adopts a 'Neil from *The Young Ones*' accent, which is not hugely different from his real voice. "You don't have to kill the monkey, man!"

WACKY AMOEBATRONS

"Yeah, a straight horizontal grid, innit," observes Matt of one of the game's more traditional levels. But are those bog brushes on wheels? "Ah, because your collisions with the sprites are pixel perfect, here I was testing what shapes you could clear. Willy was always 16 pixels high, but different widths at different points during a jump. I was testing the limits, so I made it as tall and thin as possible. I think I was going to make it go up and down so you could only jump over it at certain times, but then I worked out that even at the full height a sprite could be, you could still get over it if you timed it right – this was the level where I was finding that out." It's also the first level to undergo a change when *Manic Miner* was re-released through Software Projects. "Yeah, the amoebatrons were originally the Bug-Byte logo, so I changed them when I left. Didn't need any legal advice on that one!"

ENDORIAN FOREST

Those creatures look uncannily like Ewoks, Endor was their home planet and *Return Of The Jedi* was released the same year as *Manic Miner*. Let's take a wild guess and say you were a *Star Wars* fan, Matt. "I was that week! Went to see it, came home and stuck this screen in. Would I be a Jedi or Sith? Oh, Jedi! In fact, I put that on the last census as my religion." At this juncture we suggest a pause to replenish the Guinness and empty the ashtray as we're on screen ten and so halfway. "Nah, this is screen nine," Matt protests. We assure him we've reached double figures. "Oh, sorry. I always start counting from zero." You can't take the hex out of the boy…

ATTACK OF THE MUTANT TELEPHONES

The title is a reference to fellow coder, Jeff Minter. "I met Jeff a few times, when we won Golden Joysticks. We got on alright. Talked about music and stuff." We recall you said you liked this screen during your appearance on Iain Lee's TV documentary *Thumb Candy*. "Those phones are probably my favourite. Do you wanna see a photo of the actual phone they were modelled on? A BT 300 series." Matt goes upstairs but returns empty-handed. Quite a busy screen, this. Was there a limit to the number of enemies you could include? "Yeah, four going up and down and four going left and right. Hang on, I think you could change that to eight going up and down or left and right. I think I did that on certain screens. The Skylab Landing Bay… But yeah, eight was the limit. Due to memory. And speed. There's only so much you can draw before everything slows down. So make eight a constant and you don't have to worry about it!"

RETURN OF THE ALIEN KONG BEAST

Alien because of the pulsating head we assume, Matt. He squints at the screen. "Yeah! It is going in and out!" Matt simulates the throbbing with his hands and this seems to trigger the memory of a little coding quirk. "I gave all the screens literal numbers, so like, if you were using one of those editors that came out, this screen would always have to have a Kong Beast in. Every screen had to share the same code – I couldn't do 20 different programmes – so I'd have flags and if it was one of those screens and another test was passed, whatever it was, Kong, Eugene or whatever, would go to the bottom of the screen and stay there." We watch Willy plunge to collect the final banana before landing safely in the exit. "Do you have to get there before Kong does? No? Oh, I suppose I was playing with you a bit with that," grins Matt.

ORE REFINERY

"Are those lumps of ore? Probably," says Matt. "And you'd imagine a skull and crossbones not to be the target, but it is!" Despite Willy holding one over his shoulder on the cover of the second edition of the game, this level has one of only two ladders that appear in the game. It also has a lovely blinking eye. Any significance, Matt? "Oh ore!" he cries, cryptically. We admire Willy's well-timed, 'no going back' dash to the exit. "Oh yeah, you could've played for ages and get it wrong with that. Ha! I'd draw the platforms on graph paper and put arrows in where… No, no I didn't," he says, correcting himself. "I didn't use graph paper for *Manic Miner*. I wrote an editor on the Tandy for it. I wasn't using graph paper for level design, I was painting them in and playtesting them. I'd do a bit and see if it was possible to get past that. Then I'd add the next bit." And so his masterpiece evolved…

SKYLAB LANDING BAY

This level was always our undoing. The random falling objects instilled such panic in our young fingers. "Nope, it's all in a set sequence," Matt explains. "If you tape record this screen, it should be the same on every version. You can learn the pattern." His mind moves on to higher things. "Skylab was launched the year before and it crashed and burned… for the usual reasons. I don't know what they're going to do with the international space station when they can't afford to refuel it. I reckon they'll send it off into a higher parking orbit when they're finished with it… too big to crash and burn." Erm, and the keys on this screen? "Oh, they're computer chips." I notice Matt's fingers are twitching and then he starts making plinky plonky noises, while indulging in some inspired 'air gaming.' He still loves his baby…

THE BANK

We both smile at the rubber cheque on this screen. "Oh, cheques bounce," says Matt, ruefully. The ladders are back, too. "Yeah, that's a trellis. Left and right are the same character. I think you could only use eight different characters on each screen. Or was it four? *Jet Set Willy* was four, I think. That was even more primitive in some ways. The keys were stored separately. Were they? I can't remember. No, no they weren't. You could have a room full of 'em. The ladder was made from reusing a trellis character. There's no flipping in this – the line has to be up the middle. If they're flipped, they have to be stored twice in memory. You bit flip it and it's a completely different number. Flipping is an expensive operation on the Spectrum. Well, horizontal flipping is. Vertical is okay. That's just a memory location." We nod and hope you coders followed all that.

SIXTEENTH CAVERN

"I'd run out of names. Or maybe I was thinking in hexadecimal and thought it didn't need one," says Matt. And what are those enemies? "Flag bugs! In the code. If flag bug equals…" He thinks for a while. "Did they do anything special? No? Perhaps they were meant to. The graphics weren't saved as files, it was done by numbers. I was putting it into video memory. I laid out the levels using the editor but I was doing the graphics on graph paper. I didn't have BOUGIE (Byte Orientated Universal Graphics Interactive Editor) then. A thing I wrote that let me run through four frames of animation, forwards or backwards. Skylab is an exception. They have eight frames for the explosion, but the normal was four." And the keys? "That was an attempt at credit cards," he says. We note the need of collecting the key nearest the exit last, lest poor Willy is trapped with a depleting air supply. "It's not good to have tricks like that. Sometimes you can't resist it," he beams.

THE WAREHOUSE

"This was another experiment that I thought was so impossibly hard it would do nicely as a killer… a boss level!" he explains with a malevolent cackle. "I only ever completed this once [Pedants note, last time we met he confessed to never having completed it]. "Now I've had more practice maybe I could do it in half a dozen goes. With moving things and collapsing floors it's very hard to measure whether something is possible. Because everything is pre-determined, if it's possible once, it's possible for everyone. That's the only way you can really know that you're not on a bum steer." The lawn mower threshers on this level changed into the Software Projects 'Impossible Triangle' logo at the same time the Bug-Bytes were ditched. Or at least, that was the plan…

AMOEBATRONS' REVENGE

The tentacles are back in a reprise of Level 9, though they now seem to resemble the invaders from *War Of The Worlds*. "I thought they were jellyfish but yeah, maybe they have evolved into a higher life form," muses Matt. The difficulty has also grown. "This screen has all the different speeds the enemies can move at, up to four pixels a frame. I did the same sort of thing in *Jet Set Willy* for the Kitchen, but split it over two screens."

THE FINAL BARRIER

We're almost home. And with the sun setting romantically over the lake, it never looked sweeter. "Yeah, I'm playing around with colour clash here. The graphics are sort of better. I had more freedom because there wasn't any interaction. If you're on screen 20, put the title screen graphics on the top half and you don't have to worry about 'em. I did do this screen on graph paper, then cut it up into characters and worked it out in hex in my head. No art packages or scanners back then!" Is that a lucky horseshoe signifying the final exit? "Nah, it's omega – the end!" And the fish and dagger that rewarded the heroic few? "Oh, just things I'd drawn that were only eight pixels high and 16 across and I hadn't used in the game," he says casually. But Matt, at the Screenplay Festival a few years back, and admittedly after a few beers, you went on about its religious connotations, that it was your attempt to give gaming a "little bit of folklore"? He takes one last drag of his roll-up. "It might have," he smiles. "You'll find out in my next broadcast…" Ah, if only…

SOLAR POWER GENERATOR

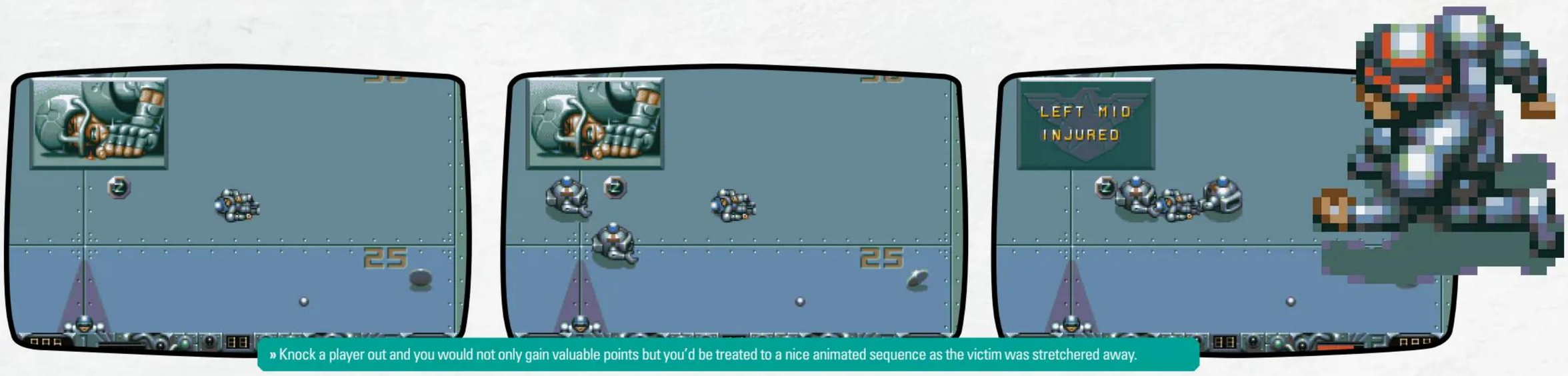
Was this a sign of your growing environmental awareness then, Matt? He has a wild, far-off look in his eye. "No more than any other rational person. I'm worried about the environment, man…" he answers in that Neil voice. "I think this is one of the brightest backgrounds. Up till now, I think I'd only done one of the four dark colours. Mainly black." Nice solar-ray effect. Was it tricky to create? "Ooh, highly technical," he laughs. "Nah, just a little bit of code. Easy enough to program. One character wide, go down and if it hits something, go that way – always at a right angle. The Spectrum can only do right angles in colour. Get it bouncing around. They'd call it artificial intelligence now. Doesn't kill you but it sucks your air down when you're in the beam. It's sort of complicated and you do run out of air, but it's not a particularly hard level." We can't be the only ones to strongly disagree…

SPEEDBALL 2 BRUTAL DELUXE

A classic that's so good it's made the top of two of our reader surveys. With that in mind we felt it was high time that David Crookes interviewed Mike Montgomery and Robert Trevellyan about their smash hit sports game

IN THE KNOW

- **» PUBLISHER:** IMAGE WORKS
- **» DEVELOPER:** THE BITMAP BROTHERS
- **» RELEASED:** 1990
- **» PLATFORM:** VARIOUS
- **» GENRE:** FUTURISTIC SPORTS



» Knock a player out and you would not only gain valuable points but you'd be treated to a nice animated sequence as the victim was stretchered away.

Ice cream, ice cream," shouts the seller, the words cutting through the tension as the seconds tick away of the second half with only five points putting distance between the opposing sides. The metal thud of the ball reverberates as the players dart mesmerisingly around the cold, grey arena. But then, as a sliding tackle knocks a hapless opponent to the floor, there is a moment of stone-hearted relief as he fails to get back up again. With the medics carrying him off, Brutal Deluxe are perversely awarded ten points and the advantage swings 180 degrees. In exhaustion, the gamer puts down a battered joystick and, with a wipe of a sweaty hand, manages a triumphant, if not exhausted, smile.

This is *Speedball 2*, a game developed by the acclaimed Bitmap Brothers which was released in 1990, two years after its predecessor had caught the mass attention of players. This time around the game was set in 2105, a short while after the sport was said to have to have been reborn in an attempt to regain public interest following years of corruption and violence. As the opening titles explained, the fictional sport had been forced underground to fester in unregulated chaos. *Speedball 2* was its saviour and it brought with it a whole new set of rules.

Players who expected a straightforward sequel to *Speedball* were pleasantly surprised by the series' second outing. According to The Bitmap Brothers' co-founder Mike Montgomery, the sequel had been completely rewritten. Although the ethos of the earlier incarnation had been retained, *Speedball 2* brought with it new mechanics and an improved feature set. It also introduced Brutal Deluxe, a badly performing team that the player had to turn into champions.

In order to achieve the new feel to the game, The Bitmap Brothers made changes to the original development team. Dan Malone replaced Mark Coleman as the artist, and Richard Joseph replaced David Whittaker as the musician. Robert Trevellyan was given the role of coder, with additional input from Mike who had assumed a greater programming role during the first game. This time out, the design was credited to Bitmap Brothers co-founder Eric Matthews.

"I think the whole concept of *Speedball 2* was different," says Mike. "What we wanted to do with *Speedball 2* was all of the things that we really didn't have time to do with *Speedball*. So the viewpoint was slightly changed, the graphics were a lot better – it was a different game to a certain extent, wasn't it? I think *Speedball 2* was just a natural progression."

Speedball 2 was Robert's first published game. Although he had been a keen hobbyist programmer, his one previous stab at a game, for Electric Dreams in Southampton, had been canned after six months but the lead artist on that title had put Robert in touch with The Bitmap Brothers. The team was impressed by an eight-way scrolling demo which Robert had shown them running on a Commodore 64. "It convinced them that I was worth a try," he admits.

The game's lead platform was the Atari ST. "It was the less powerful of the machines, certainly when compared to the Amiga, so the idea was to make it great on the ST and then enhance it on Commodore's machine," says Robert. He said the brief was to address "all of the things that had felt limited in the first game." One of those was the playing area, which, in the original, had very little width and would simply involve players trying to get the ball up towards the goal in order to score a goal.

"In the first game, you only ever played 'up' the screen but in the second they wanted to expand ▶

"SPEEDBALL 101"

■ *Speedball 2* is a top-down, 2D, futuristic, deep and violent game that is part-ice hockey and part-American football. Each smooth-scrolling match is split into two halves lasting 90 seconds each, during which players score as many goals as possible while grabbing extra points by nobbling the opposition or aiming the ball at point-scoring stars. Good use of tactics and the score multiplier are essential to win a game.

» A letter above a player's head denoted their playing position while a curve showed a player that could be passed to.

FEELING HUNGRY? IT'S RICHARD JOSEPH'S FAULT

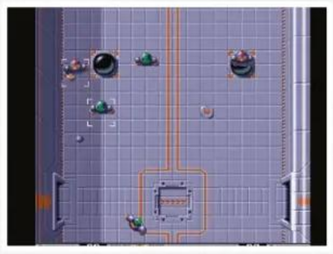
Discover why Speedball 2 loves its icecream

Quite aside from the game's intro being a computerised version of a song called Brutal Deluxe by a band called Nation 12 (a collaboration between the electronic pioneer John Foxx and Tim Simenon from Bomb The Bass), Speedball 2 was able to showcase the talents of the gaming audio legend Richard Joseph who died in 2007 at the age of 53 following a short battle against lung cancer. His approach to the problem of creating memory-hogging crowd sounds was inspiring.

"Richard came in one day and said, 'Mike, I don't really want to show this audio to anyone else until you have listened to it and given your approval because I'm not really sure'" recalls Mike. "So I said, 'okay, come in', and we went into another room. He played that clip 'ice cream, ice cream' and I went, 'shit, that has just to go in, there's no argument about it, I don't care what anyone else says, that has to go in full stop.' And of course it became a famous phrase in the industry, and I even had it on my doorbell at some point. Richard was just a genius like that and we worked so well together. It's a shame that he passed away. What would he be doing now?"

HISTORY OF SPEEDBALL

Your guide to the short-lived series



SPEEDBALL

■ The Bitmap Brothers planned a game based on real tennis, the sport from which lawn tennis is derived but Mastertronic decided against it. After hitting the pub and redesigning the game on the back of a cigarette packet, *Speedball* was born. Praised for its action, it was also criticised for jerky scrolling.

SPEEDBALL 2: BRUTAL DELUXE

■ This eight-directional frantic sweat-'em-up of catch-and-throw was a huge improvement on the first game, racking up the tension by emphasising the amassing of points over the simplicity of scoring goals, and providing a level of depth rarely seen in any sports game, let alone one based on a fictional pursuit.

SPEEDBALL 2100

■ *Speedball 2100* was a 3D version of the series for the PlayStation, "but it didn't do too well for various reasons," says Mike Montgomery. It concentrated too much on side issues, such as the skin and hair colour of its players, and less so on refining the on-pitch experience for a new next-generation audience.

SPEEDBALL 2 TOURNAMENT

■ Released in 2007 on Steam, the same year that a faithful remake of *Brutal Deluxe* hit Xbox Live Arcade, *Speedball 2 Tournament* rode on the back of a *Half-Life 2* mod called *SourceBall*. Mike Montgomery oversaw development and the polygon characters looked markedly different. It brought online play to the game too.

SPEEDBALL 2: EVOLUTION

■ As with many retro games, *Speedball 2* found its way to iOS, Android and PSP ,and proved itself to be a timeless gem. Despite some disappointing AI, the translation was a success, allowing for the use of the virtual joystick while supporting the accelerometer of mobile phones.

SPEEDBALL 2 HD

■ The relatively recent release of this PC game gave the original game a glossy graphical sheen. It had input from Mike Montgomery and *Sensible Soccer* creator Jon Hare and it replicated the distinctive look of the 16-bit originals while serving six new *Speedball* arenas. Steam still has the game for £6.99/$9.99.

▶ this," he explains. By creating a larger playing area for *Speedball 2*, the developers were able to increase the number of players on the pitch from five on each side to nine. It also meant the game could be played with far greater freedom, while allowing action in the centre of the pitch to be just as vital at that at either end, for reasons we will come to later.

"The pitch was about three times bigger because we had learned how to scroll the screen better," says Mike. "The larger playing area enhanced the game, and it allowed for more things to do. It also enabled players to make better use of tactics. By having this wide, open scrolling, there were more players that would be off the field. We wanted players to work out where they may be and to plan ahead, things like that. Getting to grips with the technology and mechanics of the game in this way also let us work on the overall look and feel of the game to the point that, technically, *Speedball 2* was a lot better than the original game."

Work on the game's playing field had come first. "We made a very simple background for most of the screen, using 16x16 tiles for the main areas of the pitch because the Atari ST didn't have the graphic acceleration hardware that the Amiga had," Robert explains. "That allowed us to put some bonus features around the edges of the screen and the bouncers on the pitch. Those bouncers were the only unique elements on the pitch – the rest of it was a repeating pattern and it meant the game could flow much better."

> **"The pitch was a lot bigger because we had learned how to scroll the screen a lot better"**
>
> Mike Montgomery

During the subsequent conversion to the Amiga, the background was enhanced. The palette was upped from 16 to 32 colours and the design became, as Robert explains, "more interesting". For the ST, it was a case, he remembers, of "blasting most the screen background very quickly," and having preloaded registers, whereas on the Amiga, the team could make use of the various graphics acceleration chips. "We were squeezing everything that we could out of these machines," says Robert. "But I was this young guy with his foot in the door of the games industry and loving it. I had the confidence that I had the skills and ability to make it happen."

To aid him in developing the game (which also saw many outings on handheld and home consoles), he was able to make use of in-house library routines that The Bitmap Brothers had created. They had some basic sprite routines and code set up on the Amiga but the main issue was that the coders were working with the same amount of memory for *Speedball 2* as they were for *Speedball*. "Cramming all of that in was a problem because we had to work with the lowest spec machines," says Mike.

"There were bits and pieces and skeleton code that were useful although almost all of the code was new," Robert continues. "Even with their library of sprite routines, I saw there was an optimisation we could perform on the main loop. I also instinctively took an object-orientated approach to the software before the concept of software engineering became the way. All of this combined to make a bigger and better version of the original *Speedball* game."

It was also fast. "The frame-rate was a lot better," says Mike, "and that was important because the better it was, the better the game experience of that type of game would be. It wouldn't matter for a turn-based game but with an action game, you needed to be slick and quick." Players would have to keep an eye on the kind of players that were in view on the pitch. Icons above their heads would reveal whether the sprites

» Goals were not the only important part of the games, amassing points via other means such as star collecting were crucial winning tactics.

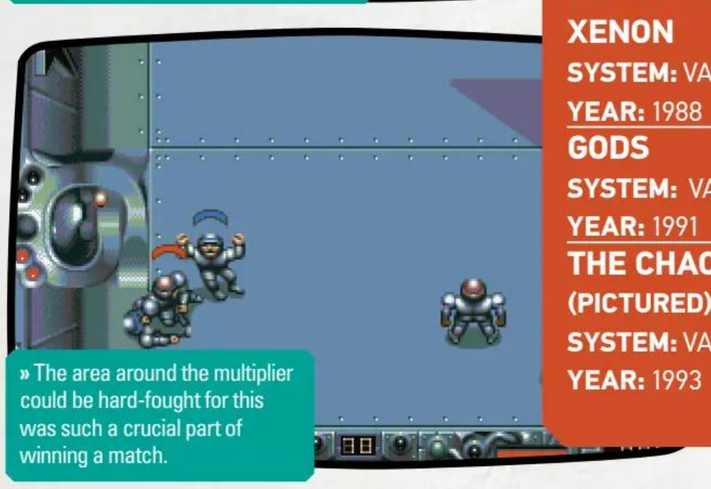
» Although Mike Montgomery insists the game was not a violent one, brutal tactics were very much at the fore. Ouch.

DEVELOPER HIGHLIGHTS

XENON
SYSTEM: VARIOUS
YEAR: 1988

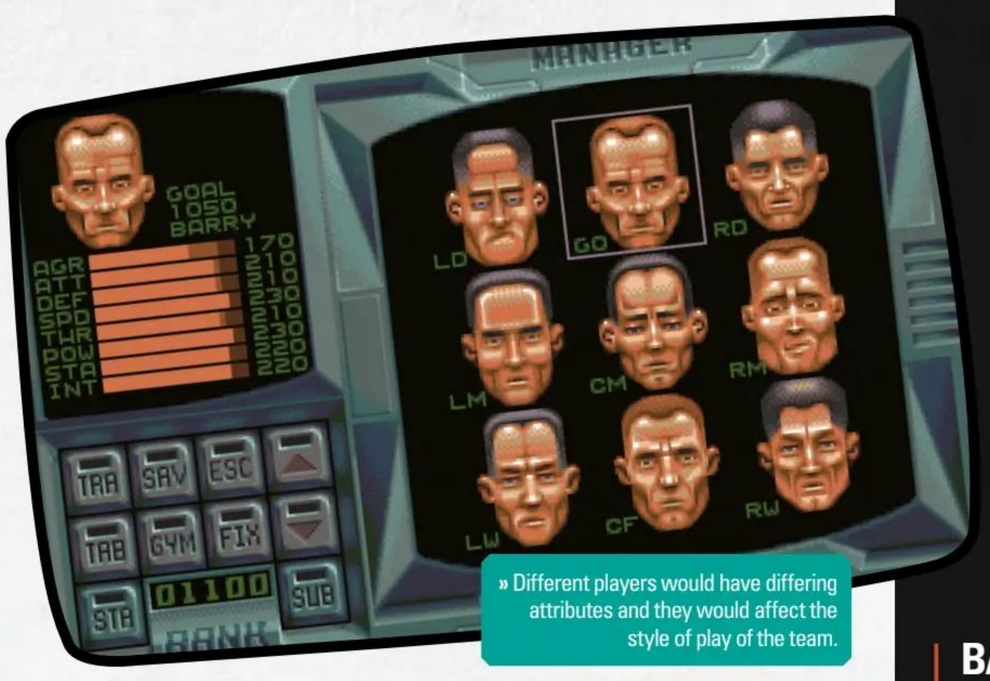
GODS
SYSTEM: VARIOUS
YEAR: 1991

THE CHAOS ENGINE (PICTURED)
SYSTEM: VARIOUS
YEAR: 1993



» The area around the multiplier could be hard-fought for this was such a crucial part of winning a match.

» By collecting tokens, the game would change direction for a very small amount of time, giving the player a short-held advantage.



» Different players would have differing attributes and they would affect the style of play of the team.

» *Speedball 2* was a challenging game and boasted some very tough computer opponents.

were open to a pass and they would indicate their playing position – W for Winger, D for Defence, M for Midfielder and F for Forward – to allow gamers to make effective passes.

There were lots of power-ups too which would reverse the controls, increase player stats, protect players or zap opponents. Some would boost player attacks and others would give an injection of stamina. Coins could be collected and be spent on player enhancements. There was even a management element, letting gamers choose a manager before training and building up nine players and three subs (while dipping into the transfer market for star players). It was possible to develop players one by one. "The management elements were added to give greater depth," says Robert. "But we made it so that people who didn't want to think about it could click auto and have the game spend the money on enhancing players while those that did want to get stuck in were able to think about who they wanted in the team and the attributes they wished to choose."

As well as having warp holes which would instantly teleport the ball from one side of the playing space to the other, *Speedball 2*'s gameplay – whether league, cup or one-off match – was enhanced by the addition of many new features, the combined nature of which changed the approach players would have towards the game. There was an overhauled scoring system, which not only put a fresh twist on the points a goal would amass for a team, but allowed players to chalk up better scores according to the tactics they employed over the course of each half.

The most important of these were the coiled score multipliers which lay across from the centre of the arena to the left and right of the screen, each containing a set of lights and each of them capable of giving players a points bonanza. By throwing the ball up the ramp of the multiplier, it was possible to increase the number of points that was awarded for goals and other score-enhancing feats.

When no lights were lit, a goal would be worth ten points, when one light was lit, it would be worth 15 and when two lights were lit, goals were worth an ▶

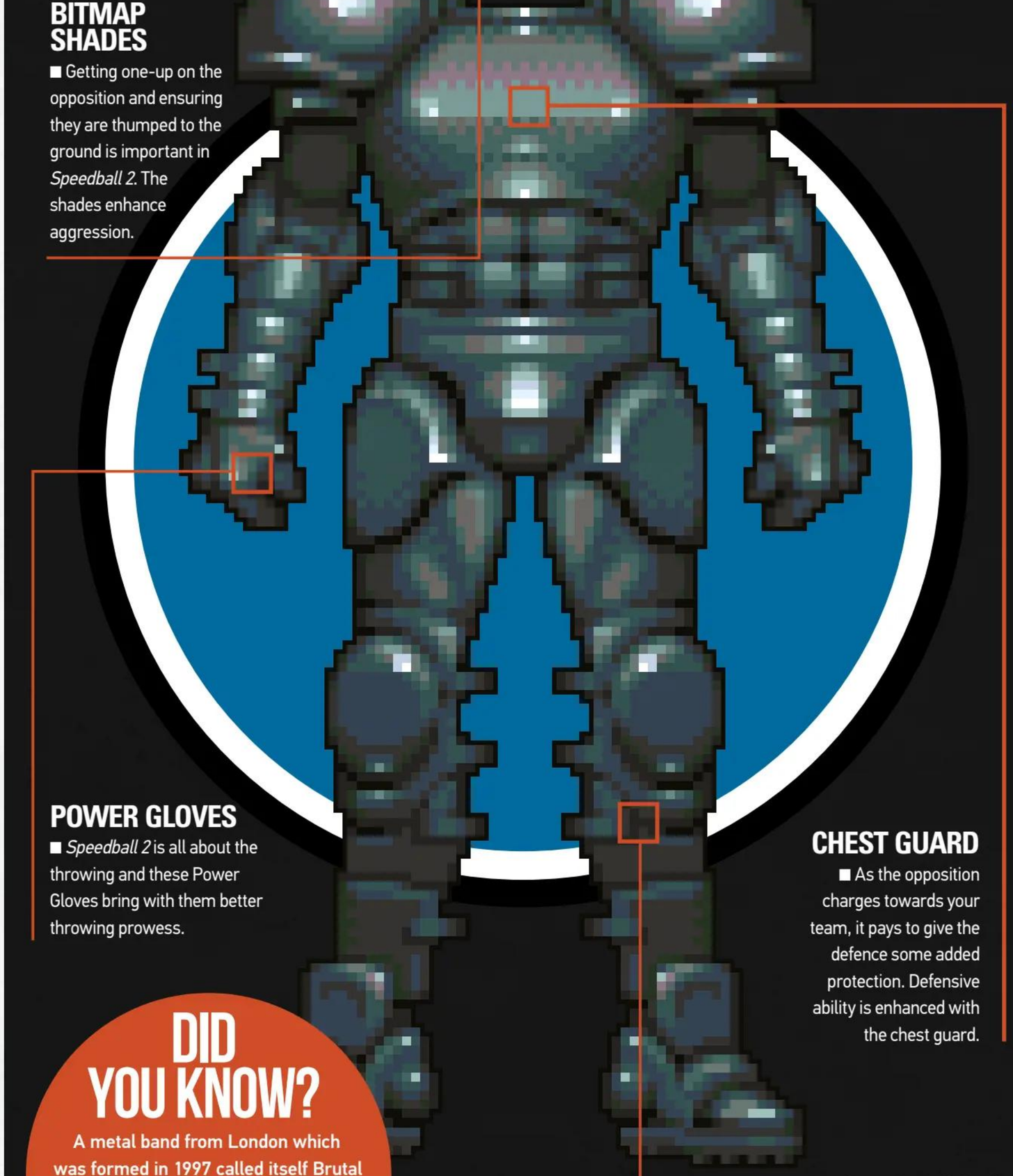
POWER-UP

Spending a little bit of time in the gym to upgrade the attack, defence, stamina, aggression and intelligence levels of your team is well worth your while

BARGE PADS
■ By plating up the shoulders of your attackers, their ability to power forward and knock the opposing players away is greatly increased.

BRAIN BOOST
■ Attackers, above all, need to have a sense of intelligence about them so injecting their noggins with a bit of cleverness wouldn't go amiss.

BITMAP SHADES
■ Getting one-up on the opposition and ensuring they are thumped to the ground is important in *Speedball 2*. The shades enhance aggression.



POWER GLOVES
■ *Speedball 2* is all about the throwing and these Power Gloves bring with them better throwing prowess.

CHEST GUARD
■ As the opposition charges towards your team, it pays to give the defence some added protection. Defensive ability is enhanced with the chest guard.

SPEED BOOTS
■ As the name suggest these enhance the speed at which an individual player is able to chase around the pitch.

DID YOU KNOW?

A metal band from London which was formed in 1997 called itself Brutal Deluxe in homage to *Speedball 2*. It released three albums and numbered Johnny D.Brutal, Guary MacSeanlaoic and Christian D.Lux as members.

SPEEDBALL TIPS

Learn to play with Robert and Mike

SHOOT WELL

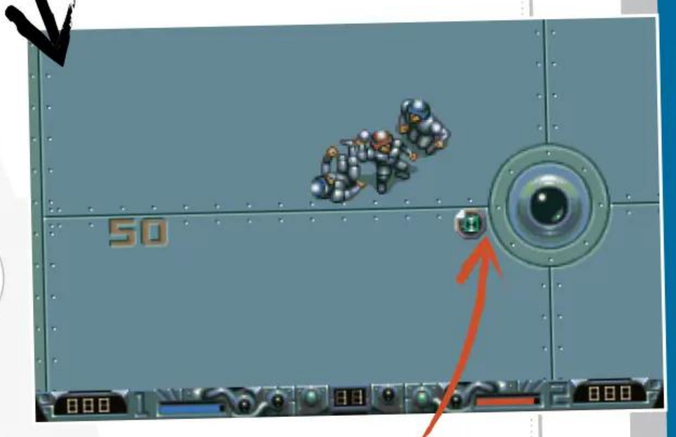
■ "You have to learn how to hit the intermediate angle on shooting," says Robert Trevellyan. "Move the joystick to the side in between pressing the button to release the ball and the ball leaving the player's hand."

GO FOR THE LEAGUE

■ As well as rewarding a win or draw, a league point is awarded for every ten points scored in a match so a good performance against a poorer team can give you a good position. "You have a better chance to win the league than the cup if only because one loss and you're out in the knockout," says Robert. "I never won the cup."

STAR ATTACKS

■ Getting goals isn't easy but getting stars are, so make your way to the sides of the pitch and hurl away for points. Get all the stars and bank the points.

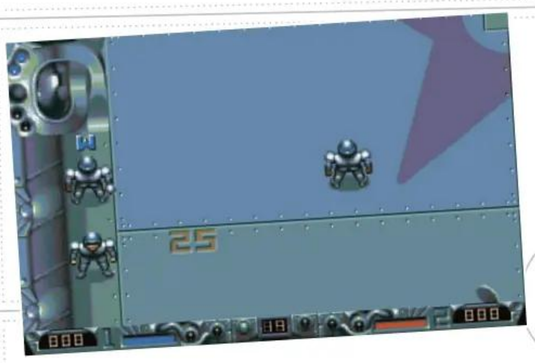


HEAD FOR THE MULTIPLIER

■ The best way to get a good lead is to ensure that every point you gain is optimised. The only way of doing that is by throwing balls into the multiplier early on.

GRAB THE TOKENS

■ Tokens affect the whole team and lasts six seconds. Freeze team tokens halt opponents, reduce team tokens lower opponent attributes, goal doors prevent goal scoring, grab ball gives you possession.



HANG AROUND

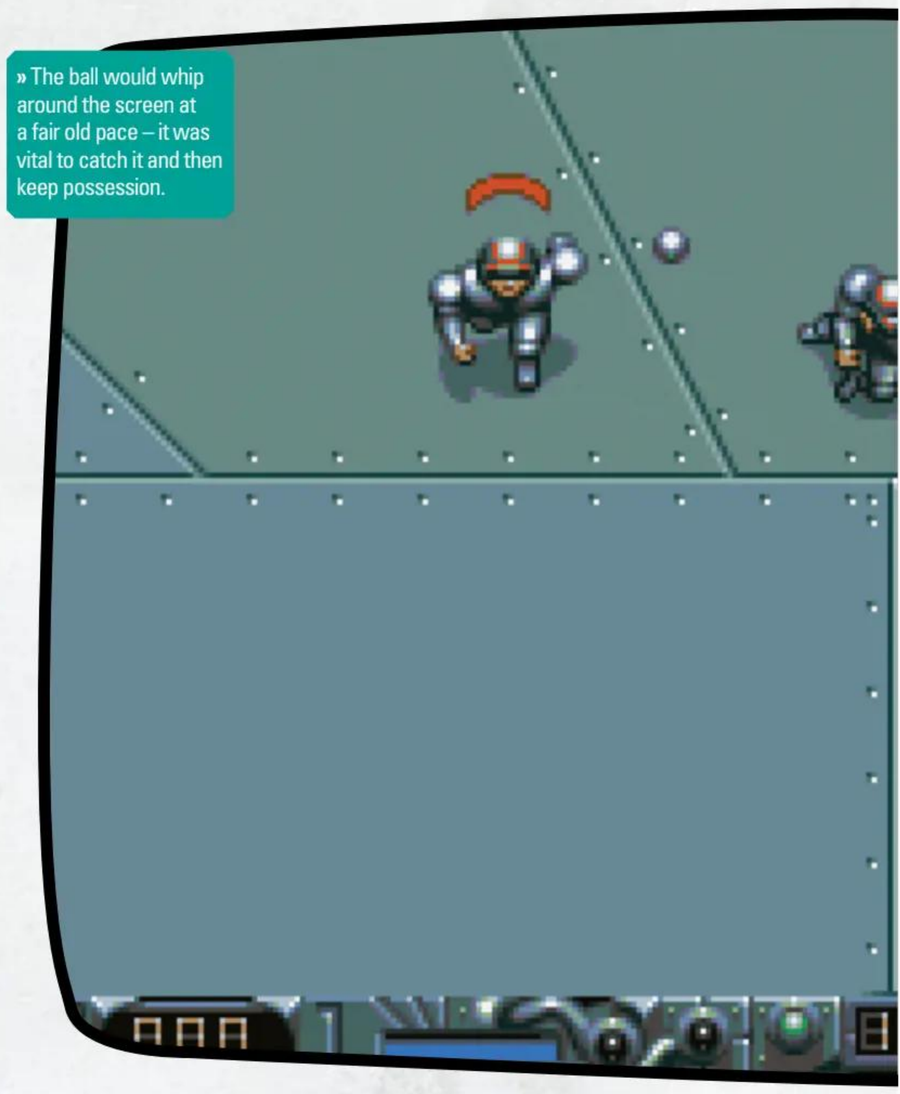
■ You should aim to linger around the multiplier and see off challenges with a few punches. Should the opposition attempt to cancel your multiples, quickly get the ball away.

USE THE BOUNCE DOWNS

■ "You have got to watch your timing and go for the bounce downs and the electrobounce – even if the electro ball runs out, you still have a chance of winning because the goalies cannot normally get to it in time and it confuses the player." Sound advice from Mike.

BUY QUALITY

■ Playing the game on the original hardware? "You have to be fast and you need to have a high quality joystick," says Robert. "You'll destroy any poor-quality joystick."



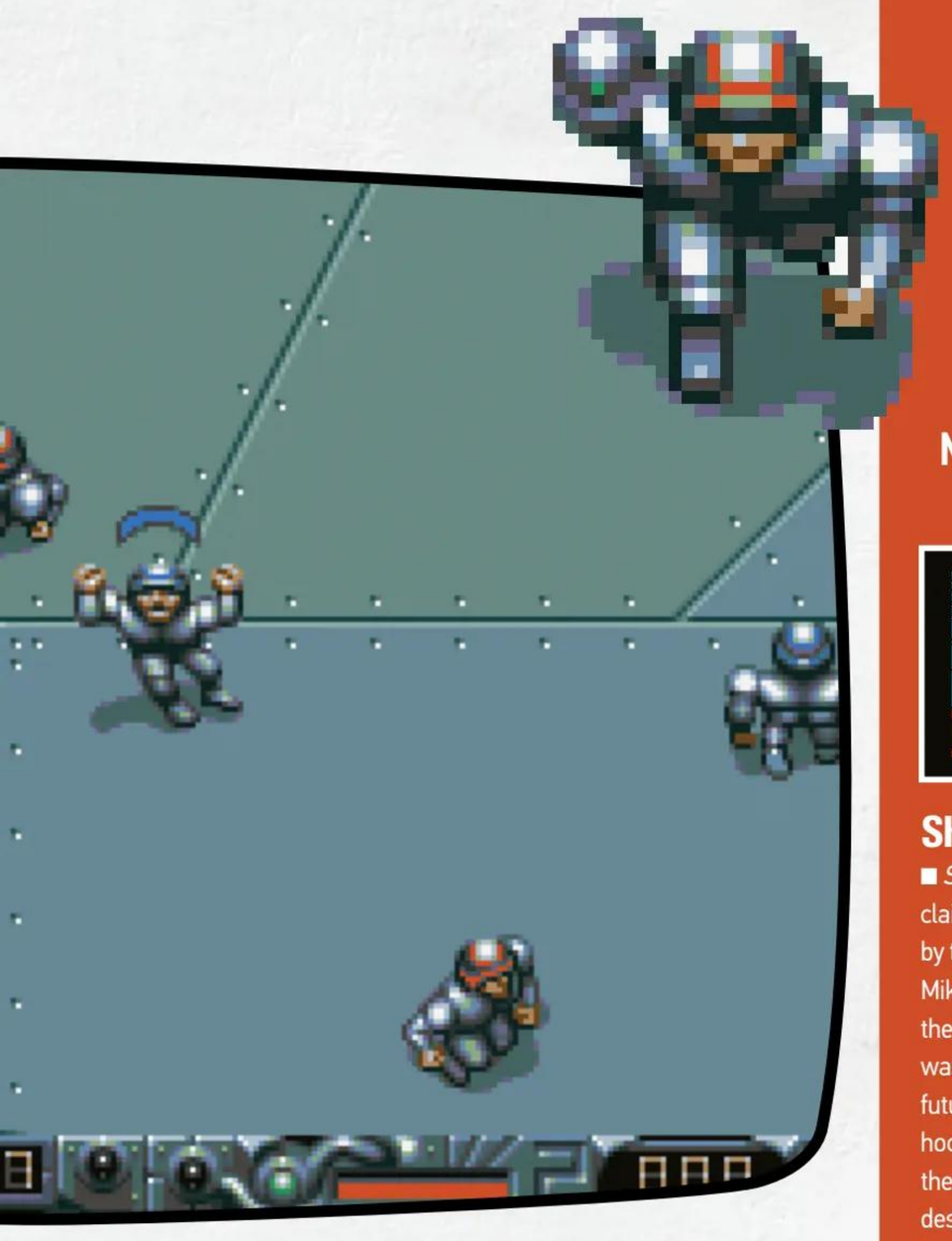
» The ball would whip around the screen at a fair old pace – it was vital to catch it and then keep possession.

▶ impressive 20 points. To the side of the multipliers were a series of five stars. When these were hit by the ball, they would give the player two precious points. But if a multiplier light was lit, that would increase to three points and if two lights were turned on, it would lead to four points. Needless to say mastering multipliers like this were one of the keys to success at *Speedball*. "Although the idea for this all of this was most likely thought out at the start by Eric, I don't remember the nuances of the scoring system being laid out in detail," says Robert, struggling to recall the exact timings. "A lot developed along the way."

And develop it did, with players quickly realising the true complexity that lay behind the waypoints were earned. Players who managed to get all five stars, for instance, would receive a bonus of ten points but if a multiplier light was on, that would increase to 15 and, if two were on, it would see a return of 20. Still, that wasn't it, though. In between the centre spot and the goals were bounce domes. When these were hit, the ball would fly away and lead to scores of two, three or four depending on the multiplier's status at the time.

The multiplier was also used in conjunction with the 'electrobounce', a feature that was placed further along the wall from the sets of stars. It would give the ball an electric charge that would only wear off when the ball became still or the opposition gained possession. When the ball was charged, players who tried to pick it up would be automatically tackled. The number of tackles would depend – you guessed it – on the number of lights that were lit up on the multiplier.

"The basic scoring methods and warp gates were inspired by *Pro-Pinball*," laughs Mike. "In fact, a lot is based on a pinball machine really. We just thought it would be a good idea to do something different and to say this is not a football game. We wanted something that had virtually no rules with a scoring mechanism that would let you boost your points which is where the multiplier and bounce domes came in. Part of actually winning in *Speedball 2* wasn't



"We were squeezing everything that we could out of these machines; pushing the hardware to the limits" Robert Trevelllyan

down to scoring goals but using the features to the best advantage."

That was certainly true. One hit on a bounce dome at the right time could give a player all the advantage needed to win a match. "In football, you may get a corner and you need to score off of it," Mike explains. "In *Speedball*, you could be in a tight position with a few seconds left, go for a bounce dome and bang, you've won the game. It's what made the game exciting and it's why people still play it. I was on the Underground in London, and two guys were talking about *Speedball 2* on the Amiga and it was, like, f**k! I would have told them that I made the game but it was too packed and I had to get off, but I heard this conversation and it was, like, f**king hell, people still talk very passionately about it."

And yet that is only half of the story when it comes to the gameplay. While players could head for the multiplier and attempt to boost their points tally, the opposing team was able to turn the lights off and wipe away any hard-fought for advantage, leading to all sounds of interesting counterattacks. The only real way to prevent the opposing team from getting the upper hand was – as in the first game – to get stuck in. As a result, *Speedball 2* was a tough, physical on-screen sport and there were a great many pixelated casualties (although we never felt guilty for causing them).

But suggest that it was a violent game and Mike is quick to jump in. "There was no violence in the game at all. It was how you perceived it," he says. "There was no blood and there was no gore. It was up to the player whether they felt it was violent or not. And that was intentional." Still, the game was about tackling opposing players head on, ramming them out of the way. What's more, ten points were awarded for every opponent who had to be carried off. In such circumstances, droids would enter the field of play with their sirens and lights flashing before picking up the poor soul and taking him away for treatment.

This animation was one of a number of graphical flourishes placed in the game by Dan Malone, a talented artist who also worked on many other games for The Bitmap Brothers including *The Chaos Engine*, *Cadaver* and *Z*. He began working in the industry when his preferred early career path drawing comic strips floundered due to a lack of work but his loss to comics at the time was certainly gaming's gain.

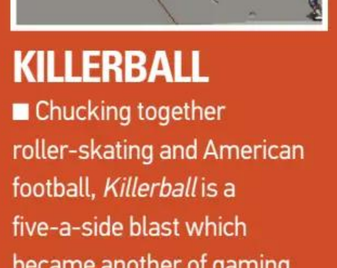
"Dan Malone brought a lot of expertise in games to *Speedball 2* and he did an excellent job," says Mike. "That's not to put Mark Coleman down – he was working on *Gods* and that game has superb graphics. The Bitmap Brothers was expanding at this time, and we were working on more games so we wanted a bigger pool of talent. It was a natural progression and we were also striving to be the best and to get better each time. With *Speedball 2*, we had the right sound effects, programmers, music and art and the package as a whole was what made it special."

As always, the team spent much time on polishing it. "The Bitmap philosophy was that a game would be finished when it was finished, so it meant many days getting it right," says Robert. "It drove me nuts but that's how they built their reputation. We also wore out a number of joysticks on the game – it was punishing it on joysticks and would make the wrist hurt."

This all combined to make a smash hit game upon which critics lavished praise. "We weren't surprised by that," says Mike. "It's a better game than the original and it was also the first two-player to hit the mass market that worked – give or take *Pong* as the first." It was also as perfect a rendition of *Speedball* as it would ever get. "*Speedball 2* was a good game and it was hard to beat. We were very proud of it."

GAME ON

More sports game with a heavy sci-fi influence to discover



SKATEBALL

■ *Speedball 2* is often claimed to have been inspired by the movie *Rollerball* but Mike denies it. *Skateball*, on the other hand, most likely was. As an ultra-violent futuristic version of ice hockey mixed with football, the matches could be won by destroying the opposition, or by scoring five goals.

CYBERBALL

■ In 2022, American football is played by well-armoured robots controlled from a safe distance by humans. Or at least that is the premise of Atari's *Cyberball*, a vertically-scrolling game in which you score a touchdown by carrying the ball across the end zone while dealing with an explosive ball.

KILLERBALL

■ Chucking together roller-skating and American football, *Killerball* is a five-a-side blast which became another of gaming history's cruel titles when it was released in 1989. Players can muscle the ball off the opposition by flattening them to the ground before trying to push the ball into stupidly small holes in the wall.

SUPER BASEBALL 2020

■ While this game has baseball's traditional rules at its core, the Cyber Egg Stadium and presence of robot players ensures it's anything but a contemporary riff on the sport. As well as the use of violence and land mines, money rules: good play is rewarded by cash that can be spent on upgrades.

BILL LAIMBEER'S COMBAT BASKETBALL

■ The NBA's website says Bill Laimbeer was "one of the most notorious players ever to throw an elbow," but he used his reputation to his advantage in this game. Set in 2030, Bill has decided to chuck out the rulebook. As the name suggests, a violence is the key to winning.

DEATHROW

■ Showing that violent, futuristic sports games were not a thing of the past (ironically enough), *Deathrow* became a welcome addition to the genre upon its release as an Xbox exclusive in 2002. With players fighting their way to try to get a glowing disc through a hoop, the game has proven to be furiously fast and fun.

» By collecting coins, it was possible to soup-up the players with various extra powers to make for a better overall side.

» Stat attack, ahoy! Before a game, players could check out what they were up against.

Whether you were working on a follow-up, working on a competitor or simply feeding arcade machines your hard-earned coins, Street Fighter II changed the gaming landscape. Nick Thorpe looks back at the impact of Capcom's classic brawler

S*treet Fighter* was a game that made an impact, but it wasn't a huge impact. It was popular, in part due to its deluxe cabinet featuring pressure-sensitive buttons (a gimmick co-developed with Atari), and did decent business in the arcades and on home formats. What's more, SNK headhunted Takashi Nishiyama and Hiroshi Matsumoto, the game's director and planner respectively. However, it wasn't a broadly influential game or one that particularly screamed out for a sequel.

As a result, Capcom found itself in a dilemma – it had established the *Street Fighter* brand and got some momentum behind it, so it was keen to continue using the name in some fashion, but the key players had left the company and it didn't particularly want to make a new one-on-one fighting game. The fighting genre wasn't exactly a huge deal in the arcades or at home, having seemingly peaked a couple of years earlier with the likes of *Yie Ar Kung-Fu*, *Way Of The Exploding Fist* and *International Karate*.

That's why the first two attempts to follow up on *Street Fighter* weren't competitive fighting games. *Final Fight*, a scrolling beat-'em-up designed to compete with the likes of the *Double Dragon*, was originally marketed as *Street Fighter '89* before being renamed. A year later, the infamously dodgy *Street Fighter 2010* arrived on the NES and ventured into safe platform shooter territory.

Just as Capcom wasn't keen to make a direct follow-up to *Street Fighter*, other developers weren't looking to it for inspiration. "I remember playing the *Street Fighter* machine at my movie arcade with the giant punch buttons and loving it despite those lame buttons," says Michael Latham, who worked on a variety of fighting games during his time at Activision and Sega. However, the older games were still the key reference points for his early work in the genre. ▶

RYU

SPECIAL MOVES
(WW) Hadoken: ↓↘→ 👊
(WW) Shoryuken: →↓↘ 👊
(WW) Tatsumaki Senpukyaku: ↓↙← 🦵
(HF) Kuchu Tatsumaki Senpukyaku: ↓↙← 🦵 (In air)
(SU) Shakunetsu Hadoken: ←↙↓↘→ 👊

SUPER MOVE
(ST) Shinku Hadoken: ↓↘→↓↘→ 👊

ART ATTACK

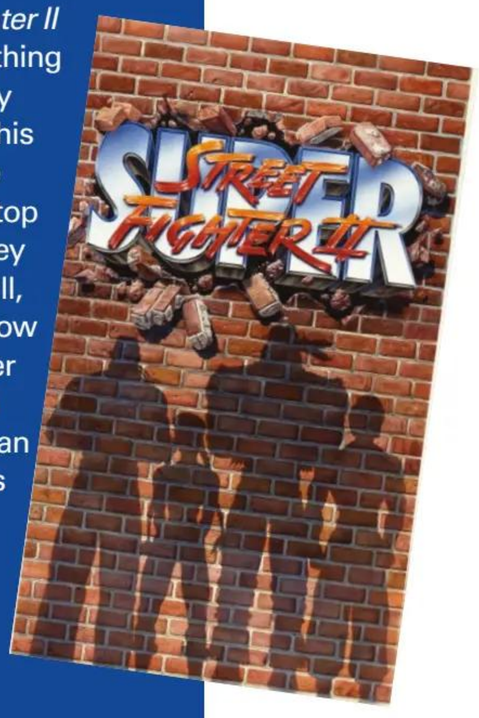
Mick McGinty talks us through some of his Street Fighter II box art

» Meditation hasn't done a lot of good for Dhalsim's hot temper.

How much reference material were you given for an illustration such as this?
Hardly none. It was a Polaroid camera shot, Denny Moore sent me a couple of Polaroid shots that the manufacturers would send. The characters that they sent me, I saw them all in digital form. I'd get an idea of the background – "We've got this project called *Street Fighter*, it's very big in Japan, and we want a very American-looking image in order to promote it and put it on the cover." I just thought of a really dramatically lit alley scene with trash cans getting knocked over and the brick wall in the background. They might have even given me the choice on this one to choose the characters, and the most exciting and interesting one to me was Blanka – his cannonball would look great coming in from the left.

Turbo is one of my more favourite ones, I don't know why. I guess just because it was simple. I remember doing the first couple of sketches, and Denny Moore took it to Capcom and they said, 'We really want this punch attack.' What they really wanted to facilitate was a whole bunch of 'ghost hands,' and what I had was one big punch going straight at Sagat. But I just like it because it's really straightforward and you get a good look at the characters. I went into muscle building magazines and tried to make E. Honda sort of super big and muscular, rather than just layers of fat – especially the shoulders. They said, 'Go crazy, make these guys look really bad – they're the best fighters in the world and they're knocking each other around the room.'

This one's a very different look from the other ones, as it's just the character silhouettes…
Well, how it started was that I did just the top section, that just says *Super Street Fighter II*. Then Denny says, 'Okay, what they want is to have you re-illustrate this *Street Fighter II* in wet paint' – I literally copied something that was given to me – "and then they want the word super busting out of this brick wall." And that was actually the cover to some other format, just the top part, and then the shadowy thing, they said, 'We want you to do a bigger wall, with some light that's casting a shadow of other characters,' – I can remember the Indian chief and the little girl with the beret, she reminded me of a Cuban martial arts girl, I don't know why. It's kind of a weird-looking illustration when you think about it.



GAME SERIES KEY

WW Street Fighter II **CE** Street Fighter II': Champion Edition
HF Street Fighter II' Turbo: Hyper Fighting **SU** Super Street Fighter II
ST Super Street Fighter II Turbo

» Throwing is an important tool to use against defensively-minded opponents. That will teach them.

» Bringing bosses into the mix was a huge boost to *Champion Edition*'s multiplayer. Success ensued.

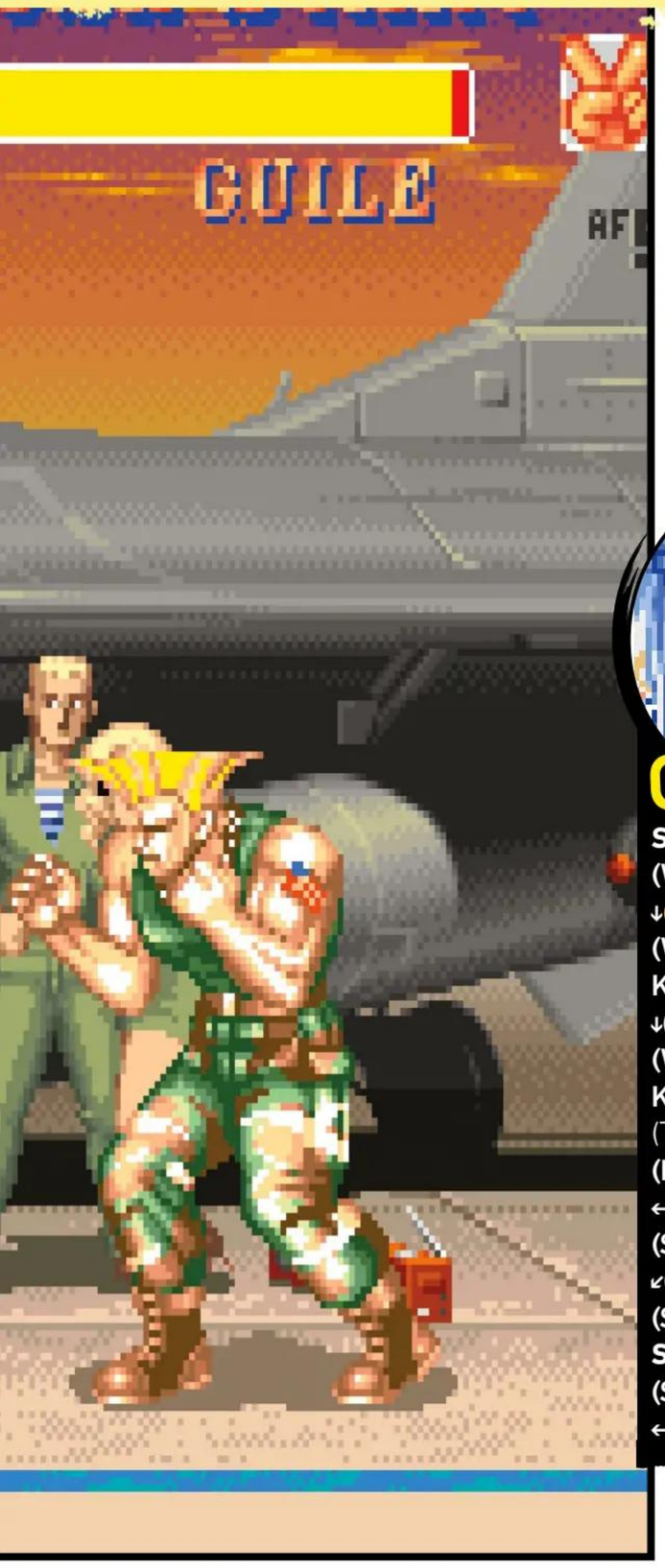
▶ "1984 was the year that my desire to make a fighting game started. I was a senior in high-school and arcades were at the heights of being a huge thing," Michael explains. "*Karate Champ* was the first 2D fighting game where I could challenge other players. I was obsessed with this coin-op. Countless hours and quarters went into playing the computer training hard so I could beat any challenger. I remember it being hard to find challengers as people would get angry if you beat them quickly, as it seemed like a waste of a quarter." Alongside *Kung Fu Master* and *Karateka*, this was the game that Michael was thinking of while working on the 1989 fighter *Tongue Of The Fatman*.

There are conflicting explanations of the actual circumstances that caused the eventual production of *Street Fighter II*, but the most corroborated story from developers is that Capcom had asked for a *Final Fight* sequel and the team decided to make a *Street Fighter* sequel instead – an ironic reversal of the situation two years prior. With the previous game's lead designers elsewhere, a new team took on the challenge and brought with them some new ideas. For a start, art was a huge part of the game design, with half of the staff working on it. This allowed Capcom to generate a huge number of ideas and provide a cast that was almost entirely new, with only three returning characters – protagonist Ryu, final boss Sagat, and player two's Ryu clone, Ken. The new characters were to be based on broad stereotypes of various nationalities.

The other big difference was that *SFII* would be focused on competitive gameplay, an aspect of arcade gaming that had been crucial to the

KEN

SPECIAL MOVES
(WW) Hadoken: ↓↘→ P
(WW) Shoryuken: →↓↘ P
(WW) Tatsumaki Senpukyaku: ↓↙← K
(HF) Kuchu Tatsumaki Senpukyaku: ↓↙← K (In air)
(ST) Kama Barai Geri: ↓↘→ K
(ST) Nata Otoshi Geri: →↘↓ K
(ST) Oosoto Mawashi Geri: ←↙↓↘→ K
(ST) Inazuma Kakato Wari: Hold K during any Geri attack
SUPER MOVE
(ST) Shouryu Reppa: ↓↘→↓↘→ P



CHUN LI

SPECIAL MOVES
(WW) Yousou Kyaku: ↓(In air)
(WW) Spinning Bird Kick: ↓(Hold), ↑
(WW) Hyakuretsu Kyaku: (Tap) repeatedly
(HF) Kikouken: ←(Hold), →
(ST) Tenshou Kyaku: ↙(Hold), →↓↘
(ST) Inazuma
SUPER MOVE
(ST) Senretsu Kyaku: ←(Hold),→←→

» Chun-Li was the first of many female fighters in the *Street Fighter* franchise.

> **"The characters in the Street Fighter series are fantastical"**
> Yoshinori Ono

success of early games like *Pong*, but which had fallen out of favour over the years due to the rise of co-op play and high score tables. Capcom's idea was that encouraging two-player games would maximise revenue for arcade operators, and unlike a co-op game players couldn't feel cheated by a high difficulty level. Of course, the original game also had a multiplayer mode, but players were limited to two characters with identical abilities. This was a much poorer experience than the single-player mode, which allowed players to fight ten opponents with a variety of techniques.

Street Fighter II proved to be a major production for the era. With a development team of approximately 35, the game cost almost $2.5 million to make. It was a real gamble for a sequel to a game that hadn't set the world on fire, but one which had evidently paid off when you saw the game's astonishing visuals and heard the excellent music. But while those aspects were great, what sent it over the top was the design.

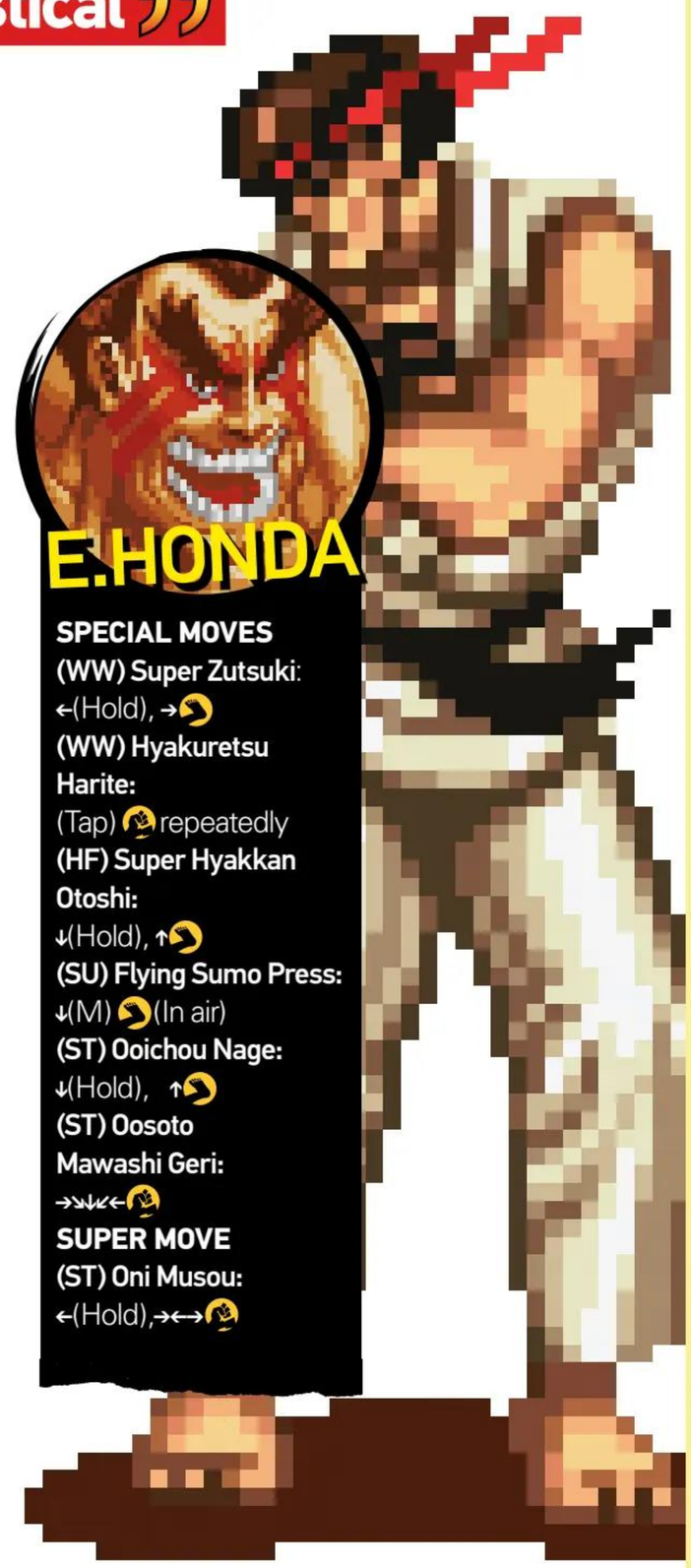
Much like its predecessor, *Street Fighter II* challenges players to win a series of one-on-one fights in a bid to win a fighting tournament. It retains some of the gameplay characteristics of the original game, including a control scheme with three strength options for punching and kicking, as well as the inclusion of special moves accessed with combinations of movements and button presses. In the single-player mode, you'll face off against the characters you didn't pick before taking on the game's four bosses – Balrog, Vega, Sagat and M. Bison. To break up the game a little, you're challenged to a bonus game every few rounds in which you destroy objects like a car, barrels and oil drums. Once M. Bison is defeated, you'll see a unique ending sequence for your character.

Unlike the original game, *Street Fighter II* gives you the choice of eight characters with distinct fighting styles, and they were an eye-catching bunch. Whether you were looking at Guile's bizarre haircut, Dhalsim's rubber limbs or the lightning hands of E. Honda, you were definitely looking at them – and each boasted a unique background themed around their nationality as well as a memorable theme tune. Yoshinori Ono, the executive producer of *Street Fighter V* and a veteran of the series, attributes much of the game's success to cast of characters. "The characters in the *Street Fighter* series are fantastical and couldn't really exist in the real world, but they all have their charms and amusing moves, expressions and storylines," he says.

Given that, it's no surprise that his favourite cast member is Blanka, the green-skinned wild man with an animalistic fighting style. "I mean, you bash the buttons and he releases electricity from his body! You wouldn't see that in an ordinary game or in a movie. Even the animations for his basic punch and kick moves are just really funny to me. Finding those humorous aspects within the potentially quite serious setting of playing an eSports match of *Street Fighter* is, I think, one of the reasons the fans have continued to love the series as long as they have, ▶

» "How could you not love that face?" laughs Ono. It's hard not to, that's for sure.

» Each character's special moves were unique, and allowed players to respond to a variety of threats.



E.HONDA

SPECIAL MOVES
(WW) Super Zutsuki: ←(Hold), →
(WW) Hyakuretsu Harite: (Tap) repeatedly
(HF) Super Hyakkan Otoshi: ↓(Hold), ↑
(SU) Flying Sumo Press: ↓(M) (In air)
(ST) Ooichou Nage: ↓(Hold), ↑
(ST) Oosoto Mawashi Geri: →↘↓↙←
SUPER MOVE
(ST) Oni Musou: ←(Hold),→←→

▶ and it's also one of the reasons why I love it."

Peter Rosas rose to prominence on the competitive *Street Fighter* scene under the name Combofiend before joining Capcom himself, and shares a similar view. "Worldwide, anyone who's ever played videogames is aware of Ryu and his Hadoken and of Chun-Li and her lightning kicks. Regardless of what platform it's on, people relish using *Street Fighter II*'s iconic characters to fight one another while performing those characters' simplistic signature attacks." Indeed, everyone has a favourite. Michael first encountered the game at Sega, where a cabinet had been bought for research on its own fighting game, *Eternal Champions*. "For a period of time I was the office champ using Chun-Li as my character," he recalls. "Sadly, some of the testers learned my play and soon crushed me." Mark Starkey, owner of London arcade The Heart Of Gaming, leans towards Ken. "Ken was an aggressive Ryu with more combos, and his rotation-based execution meant the pace of the matches was always fast," he explains.

The additional characters certainly added longevity to the single-player game, as players could opt to try to win the tournament with each of them individually, but arguably the game's biggest impact was in bringing an element of direct competition back to arcades. "Previously all two-player games had been co-operative rather than competitive," Mark recalls. "*Street Fighter II* revolutionised this, pitting players against each other, all determined to not be the person forced to go and change up more money in front of their peers in order to be able to continue." Peter points to the widened character roster as a key reason that the game took off competitively. "Regardless of your style, there was one character amongst the eight that would fit. On top of that, the speed, fluidity of controls and ability to perform combos really made *Street Fighter II* stand out ahead of its time."

Ono agrees. "I can still remember clearly the feeling of not playing a game so much as being able to take on an opponent in such a visceral way," he says. "At the time there weren't that many videogames that allowed you to compete against someone like that, the same way as you would when playing sports or indoor games like pool and darts."

BLANKA

SPECIAL MOVES
(WW) Electric Thunder: (Tap)
(WW) Rolling Attack: ←(Hold),→
(HF) Vertical Rolling: ↓(Hold),↑
(SU) Backstep Rolling: ←(Hold),→
(ST) Surprise Forward: →(All)
(ST) Surprise Back: ←(All)
SUPER MOVE
(ST) Ground Shave Rolling: ←(Hold),→←(Hold)

» With Ryu vs Ryu mirror matches possible in *ChampionEdition*, Ken became his own character.

> **"Worldwide, anyone who's ever played videogames is aware of Ryu and his Hadoken or Chun-Li and her lightning kicks"**
> Peter Rosas

What elevated *Street Fighter II* from a trend to a phenomenon was its fighting system, which boasted depth. "I would say *Street Fighter II* cracked the next step of how an interactive fighting system worked," says Michael. "Back in the *Tongue Of The Fatman* days the fighting systems were very 'rock, paper, scissors'. Both people could launch either an attack, defence, or projectile in some cases. *Street Fighter II* was the dawn of combos. The ability to string a combo of moves was the game changer. It made the game play fluid and far more strategic."

The ability to perform combos – attacks which cancel the animation of previous attacks, leaving the opponent no recovery time – was an unintended side effect of an attempt to make special moves easier to perform. "It opened up an entirely new feeling of what was possible in a fighting game," says Peter. "Prior to the introduction of this glitch, which then became a mainstay, fighting games consisted of slow attacks where the entire action needed to be completed before the next action could be performed. This ultimately left fighting games feeling rather stiff."

GUILE

SPECIAL MOVES
(WW) Sonic Boom: ←(Hold), →
(WW) Somersault Kick: ↓(Hold), ↑
(WW) Flying Buster Drop: ↓(M) (H) (In air)
(WW) Flying Mare: ↓(M) (H) (In air)
SUPER MOVE
(ST) Double Somersault Kick: ↙(Hold),↘↗

Of course, the combo system wasn't the only glitch in *Street Fighter II*, and the game's director Akira Nishitani had been privately fixing them up for personal satisfaction. However, they'd soon be put to use. Demand from Capcom's American branch turned *Street Fighter II* from a static game into an experience which evolved over the years with updates, in response to market developments and the findings of competitive players. Capcom's approach was extremely bold: while the concept of updating an cabinet was hardly new, the upgrade kit was often a overhaul or a completely new game. *Street Fighter II* received four upgrades over the course of three years, all of which left the core of the game intact.

The first updated version, titled *Street Fighter II': Champion Edition*, was released just over a year after the original version in March 1992. The multiplayer game was refreshed with a huge number of new match-ups, thanks to the new ability for both players to pick the same character, as well as the

» *Turbo* brought new moves for most characters, like Chun-Li's projectile attack.

» Cammy is arguably the most popular of *Super Street Fighter II*'s new challengers.

much more enticing ability to play as the four boss characters. Beyond that, the revision brought bug fixes, a set of move tweaks designed to rebalance the game and some minor graphical updates.

The ease of replacing chips on the *Champion Edition* board gave way to a slew of unofficial updates – notably *Rainbow Edition*, a fast-paced hack which broke the game balance with airborne special moves and bizarre projectile behaviour. At the end of 1992, *Street Fighter II' Turbo: Hyper Fighting* arrived as a playable official alternative. As well as giving seven of the original eight playable characters a brand new special move (with Guile being the one to lose out), the game's speed was noticeably increased. While it sounds like a fairly minor update compared to *Champion Edition*, it is fondly remembered: "I believe it to be the best all-rounder," says Mark. "The game was balanced, and improved on the limitations of its predecessor with extra speed, extra moves and damage levels with better balancing. It's still very popular at arcades in the East."

Arguably the most major update to *Street Fighter II* came with the ▶

DHALSIM

SPECIAL MOVES
(WW) Yoga Fire: ↓↘→
(WW) Yoga Flame: ←↙↓↘→
(WW) Drill Zutsuki: ↓(H) (In air)
(WW) Drill Kick: ↓(H) (In air)
(HF) Yoga Teleport (Forward): →↓↘(All) or
(HF) Yoga Teleport (Backward): ←↓↙(All) or
(ST) Yoga Blast: ←↙↓↘→
SUPER MOVE
(ST) Yoga Inferno: →↘↓↙←→↘↓↙←

TEAM PICKS

The Retro Gamer team looks back at their favourite Street Fighter characters

DARRAN

Chararcter: Zangief

■ 'The Darran Jones Factor' has been circulating around the office for years. It refers to my ability to manically rotate the joystick to pull off insanely quick piledrivers. Therefore I play Zangief.

NICK

Chararcter: Ryu

■ Boring? Maybe, but Ryu perfectly fits my image of what a badass martial artist looks like, complete with white gi and a black belt – as a young karate student, he was what I wanted to be.

JON

Chararcter: Blanka

■ I like to play a defensive game and then slide in with a rolling attack or floor slide. For me, Blanka provides the best chance at keeping my distance but then also ability to get in close if needs be.

DREW

Chararcter: Chun-Li

■ It was not the Hadoken, but Chun's lightning legs (Hyakuretsu Kyaku) that wowed me in *Street Fighter II*. She's such a good all-rounder, and I still play Chun-Li to this day on *Street Fighter VI*.

ZANGIEF

SPECIAL MOVES
(WW) Double Lariat: (All)
(WW) Screw Piledriver: (360)
(HF) Quick Lariat: (All)
(SU) Flying Powerbomb: (360)
(SU) Atomic Suplex: (360) (Close)
(ST) Banishing Flat: →↘↓
SUPER MOVE
(ST) Final Atomic Buster: 2x(360)

SAGAT

SPECIAL MOVES
(CE) Tiger Shot: ↓↘→
(CE) Ground Tiger Shot: ↓↘→
(CE) Tiger Uppercut: →↓↘
(CE) Tiger Knee Crush: ↓↘→↗
SUPER MOVE
(ST) Tiger Genocide: ↓↘→↓↘→

DID YOU KNOW

■ There's a hidden catch-up mechanic in *Street Fighter II* – if your opponent has won more rounds than you, your throws will deal some extra damage to help you out a bit.

■ In order to clue players in to the existence of special moves, every button press in the original arcade version of *Street Fighter II* carries a 1-in-512 chance of triggering a special move.

■ The team's original intention was that all projectiles could be avoided by crouching, but those plans were scrapped due to how good the now-familiar Hadoken animation looked.

■ *Divekick*, *Shovel Knight* and *Kaiju Combat* all feature The Baz, a character based on an unused piece of *Street Fighter II* concept art depicting a bullfighter wearing a T-shirt that reads 'Zubaz'.

■ Dee Jay's trousers were originally going to bear the word 'Mantis', but the word was changed to read 'Maximum' because the word still read properly when the sprite was flipped.

BALROG

SPECIAL MOVES
(CE) Dash Upper ←(Hold),→
CE) Dash Straight: ←(Hold),→
(CE) Turn Punch: (All)/(All) (Hold), release
(SU) Buffalo Headbutt: ↓(Hold), ↑
(ST) Dash Ground Upper: ←(Hold) ↘
(ST) Dash Ground Straight: ←(Hold)↘
SUPER MOVE
(ST) Crazy Buffalo: ←(Hold),→←→

VEGA

SPECIAL MOVES
(CE) Rolling Crystal Flash: ←(Hold),→
(CE) Flying Barcelona Attack: ↓(Hold),↑ then
(CE) Izuna Drop: ↓(Hold),↑ then ←or→
(SU) Sky High Claw: ↓(Hold), ↑
(ST) Scarlet Terror: ↙(Hold), →
SUPER MOVE
(ST) Rolling Izuna Drop: ↙(Hold),↘↙←→ then←/ →

▶ game's move to the CPS2 arcade board. *Super Street Fighter II: The New Challengers* was a big overhaul, featuring four brand new characters with their own backgrounds and theme tunes. Fei Long was a clear homage to Bruce Lee and Dee Jay, the first character to be designed by Capcom USA, was fashioned after the martial artist and Tae Bo creator Billy Blanks. T. Hawk (short for Thunder Hawk) was a Mexican powerhouse, while the UK's Cammy was an amnesiac assassin with a mysterious connection to M. Bison.

"I think the new characters added some new ways to play," says Peter. "A good example is T.Hawk. With this introduction, a new grappler entered the fray, yet instead of being ground-based, he was more mobile and able close the distance on the opponent's way faster than Zangief could. Having a mobile grappler was something unseen in *Street Fighter*, and was truly daring."

As *Super Street Fighter II* was running on more powerful hardware than the first three versions, those weren't the only changes. "On-screen combo counters, remixed music, as well as character detailing. We ate up what was thrown at us," Mark recalls. But, the game was a step back in one regard – the additional speed found in *Street Fighter II Turbo* was nowhere to be seen.

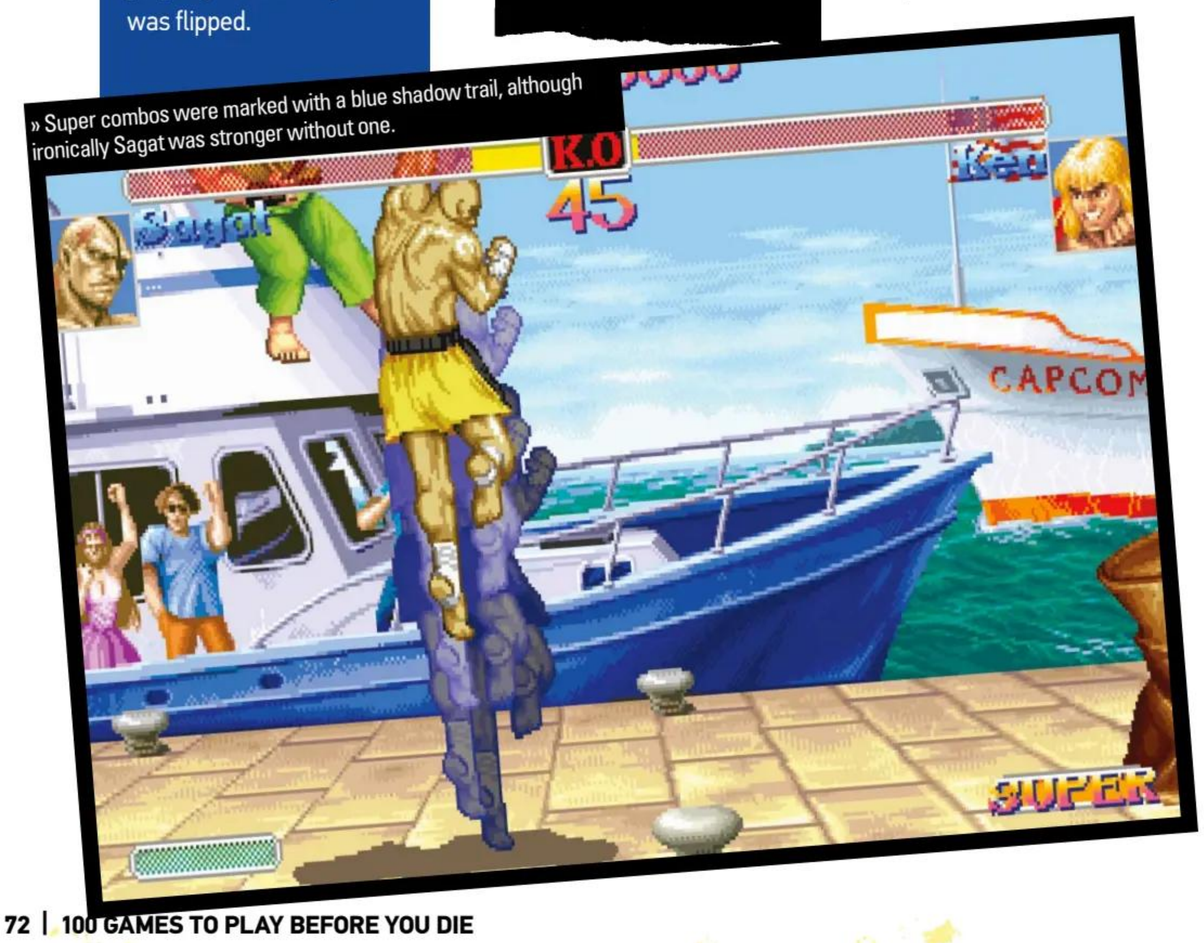
The last of the contemporary updates was *Super Street Fighter II Turbo*, which brought back the higher speeds of *Street Fighter II Turbo*. However, its major innovation was the addition of Super moves – powerful multi-hit combos that could only be performed once the gauge at the bottom of the screen had been completely filled. The new game also added throw escapes, which allowed players to reduce damage when being thrown, but removed the Tournament Battle mode and the bonus stages, which upset some.

Looking back on the updates, Peter is positive about their impact: "Although I liked some more than others, I felt each were a necessity as Capcom further refined not only how *Street Fighter II* looked and felt, but how fighting games could look and feel." He wasn't alone in that sentiment, as *Street Fighter II*'s updates were also strong critical and commercial successes. "That said," Peter continues, "I remember thinking, 'Just give me *Street Fighter III* already,' when *Super Street Fighter II* was released." He speaks for a vocal section of the community in this regard, as there was a suspicion that Capcom had found a cash cow and was milking it. The update idea had worked brilliantly for the arcade market, where an operator could justify expenditure because it would increase the cabinet's longevity. Only the hardcore would fork out the cost of a full-price game for such revisions in the home market, and the updates released to diminishing returns.

In 2004, a final arcade version titled *Hyper Street Fighter II* was released. It featured the ability to choose not only your character, but also the version characteristics applied to them – meaning it was possible to pit *Champion Edition* Ryu against *Hyper Fighting* Sagat, for example. The last new revision was *Super Street Fighter II Turbo HD Remix*, which added new HD visuals and a remixed soundtrack, as well as a rebalanced mode with simpler control inputs. "It was surprising as the sentiment within the competitive scene was that although *SSFII Turbo* was rather imbalanced (Old Sagat was quite strong) they kind of accepted it and were still finding ways to fight the character well up to *SSFII: HDR*'s release," says Peter. "That said, seeing as how *HD Remix* had a brand-new look, it would've been weird if the game did not also have a different re-balance."

S*treet Fighter II*'s commercial impact is hard to overstate. Both Capcom and operators made major money from the game, as a competitive scene gave rise to tournaments and a competitive scene, the legacy of which can be seen in today's eSports scene and tournaments like the Evo Championship Series.

Of course, success breeds imitators. "Developers saw the impact *Street Fighter II* was having, and it wasn't long before the competition got tough," recalls Mark, "especially with franchises such as *Mortal Kombat*, *The King Of Fighters* and *Tekken* all out by 1994, and all looking to claim the competitive fighting game genre in the arcades." By that point every major arcade manufacturer had jumped on the fighting bandwagon and Capcom felt that some imitators were getting a bit close for comfort. In particular, Capcom took Data East to court over *Fighter's History*, alleging that it had copied fighting styles, appearances and control schemes from *Street Fighter II*. However, the court concluded that many of the similarities between the two games were not protected under copyright law, and that *Fighter's History* had not sufficiently infringed upon those that were.



» Super combos were marked with a blue shadow trail, although ironically Sagat was stronger without one.

» With teleportation, air fireballs and insane power, Akuma was a devilish boss.

DEE JAY

SPECIAL MOVES
(SU) Air Slasher: ←(Hold),→👊
(SU) Double Rolling Sobat: ←(Hold),→🦵
(SU) Machine Gun Upper: ↓(Hold),↑👊, then 👊 (tap)
(ST) Jackknife Maximum: ↓(Hold),↑🦵
SUPER MOVE
(ST) Sobat Carnival: ←(Hold),→←🦵

> **"The game was balanced, and improved on the limitations of its predecessor"**
>
> Mark Starkey

However, it was certainly possible to carve out a place in the fighting market. The important thing, as Michael notes, was to offer something that *Street Fighter II* didn't. "I think *Eternal Champions* always started with a deep story as the focus. Prior to this, no fighting game had focused on that aspect," he explains. "Given that *Eternal Champions* wasn't an arcade port I also focused to make sure the single-player was rewarded. Training modes and all the various storyline outcomes were designed to reward those players as much as the head to head modes." This paid off for Michael and his team, as the game achieved strong sales despite a crowded Mega Drive fighting market. Indeed, every competitor offered a unique hook, be it the realistic digitised sprites and copious gore of *Mortal Kombat*, the dynamic sprite scaling of SNK's games or the 3D visuals of games like *Virtua Fighter*. However, most games adopted aspects of *Street Fighter II* in return, with the combo system being the most notable.

In the home, *Street Fighter II* was big business, with almost every platform receiving at least one of the game's versions. However, special mention has to be made of *Street Fighter II*'s impact as a third-party killer app for Nintendo – the SNES version was the first home conversion on the market when it arrived in the summer of 1992, and fans of the arcade machine flocked to the console as a result. Nintendo was particularly keen to trumpet the fact that it had the only conversion of the game, memorably placing a full page advert stating "Sega owners… dream on." in the debut issue of *Mean Machines Sega*.

Although other versions did arrive later and some of them were very good, the game always had the strongest association with Nintendo's hardware. In fact, of the 36 million *Street Fighter* games that have been sold to date, roughly a third of those are different versions of *Street Fighter II* on the Super Nintendo – six million of the original, four million of *Street Fighter II Turbo* and two million of *Super Street Fighter II*. For comparison, *Street Fighter II: Special Champion Edition* on the Mega Drive sold 1.65 million copies and *Super Street Fighter II* failed to crack a million.

M. BISON

SPECIAL MOVES
(CE) Psycho Crusher: ←(Hold),→👊
(CE) Double Knee Press: ←(Hold),→🦵
(CE) Head Press: ↓(Hold),↑🦵
(CE) Somersault Skull Diver: 👊(After Head Press)
(SU) Devil Reverse: ↓(Hold),↑👊
SUPER MOVE
(ST) Knee Press Nightmare: ←(Hold),→←🦵

While updates had provided diminishing returns over *Street Figher II*'s lifetime, they had kept the game relevant for many, many years and had helped encourage a thriving player base. Capcom would continue using updates in this way as a result, putting out a variety of revised versions of *Street Fighter III* and *Street Fighter IV*. Other developers also adopted the use of interim updates in their own fighting games, with some proving just as prolific as Capcom – for example, Arc System Works produced five revisions of *Guilty Gear XX*. However, the end of this business model may be in sight as Capcom abandoned the practice for its latest game, *Street Fighter V*, which will rely on rolling DLC instead. ▶

STAT FIGHTER

The tale of the tape on Capcom's prize fighter

7
Games in the *Street Fighter II* series

65
Character variations available in *Hyper Street Fighter II*

£1000
The amount of earnings a *Street Fighter II* (UK) cabinet could bring in

22.4 billion Yen
The revenue from *Street Fighter II: Champion Edition* sales in Japan alone

24
Number of platforms that received an official version of a *Street Fighter II* series game

200,000
Estimated number of *Street Fighter II* cabinets operated in Mexico

17
Unique characters in *Street Fighter II* series

0
Number of *Street Fighter II* cabinets Capcom sold to Mexican operators

22 Years
How long *Street Fighter II* held the record for best-selling Capcom game

8 Frames
Least forgiving input time limit for a Shoryuken in *Super Street Fighter II Turbo*

15 Frames
Most forgiving input time limit for a Shoryuken in *Super Street Fighter II Turbo*

▶ For Capcom, the success of *Street Fighter II* was transformative – not only did the company create further *Street Fighter* sequels, it began to gear its arcade output heavily towards fighting games. This peaked in 1998, when seven of Capcom's nine arcade releases were fighting games – and four of those featured Ryu, in a prequel (*Street Fighter Alpha 3*), a sequel (*Street Fighter III 2nd Impact*), a spin-off (*Street Fighter EX2*) and a crossover (*Marvel Vs Capcom*). This persisted until the decline of fighting games around the turn of the century, but the company also takes the credit for the genre's revival with *Street Fighter IV*.

Street Fighter II reshaped a genre, and its influence continues to be felt today . "With many things popular today, there is heritage. *Star Wars, Final Fantasy, James Bond, Shenmue*, take your pick," says Mark. "There will always be people who will be curious about the roots of something they fall in love with, and *Street Fighter* is as popular as ever."

But while new sequels drive renewed interest in the series, what truly marks *Street Fighter II* out as a stunning sequel is that the staff of the new games often refer back to it. "One of the things that made *Street Fighter II* stand out was that anyone could walk up and hit buttons and leave satisfied," says Peter. "When designing *SFV*, that was one of our core design pillars."

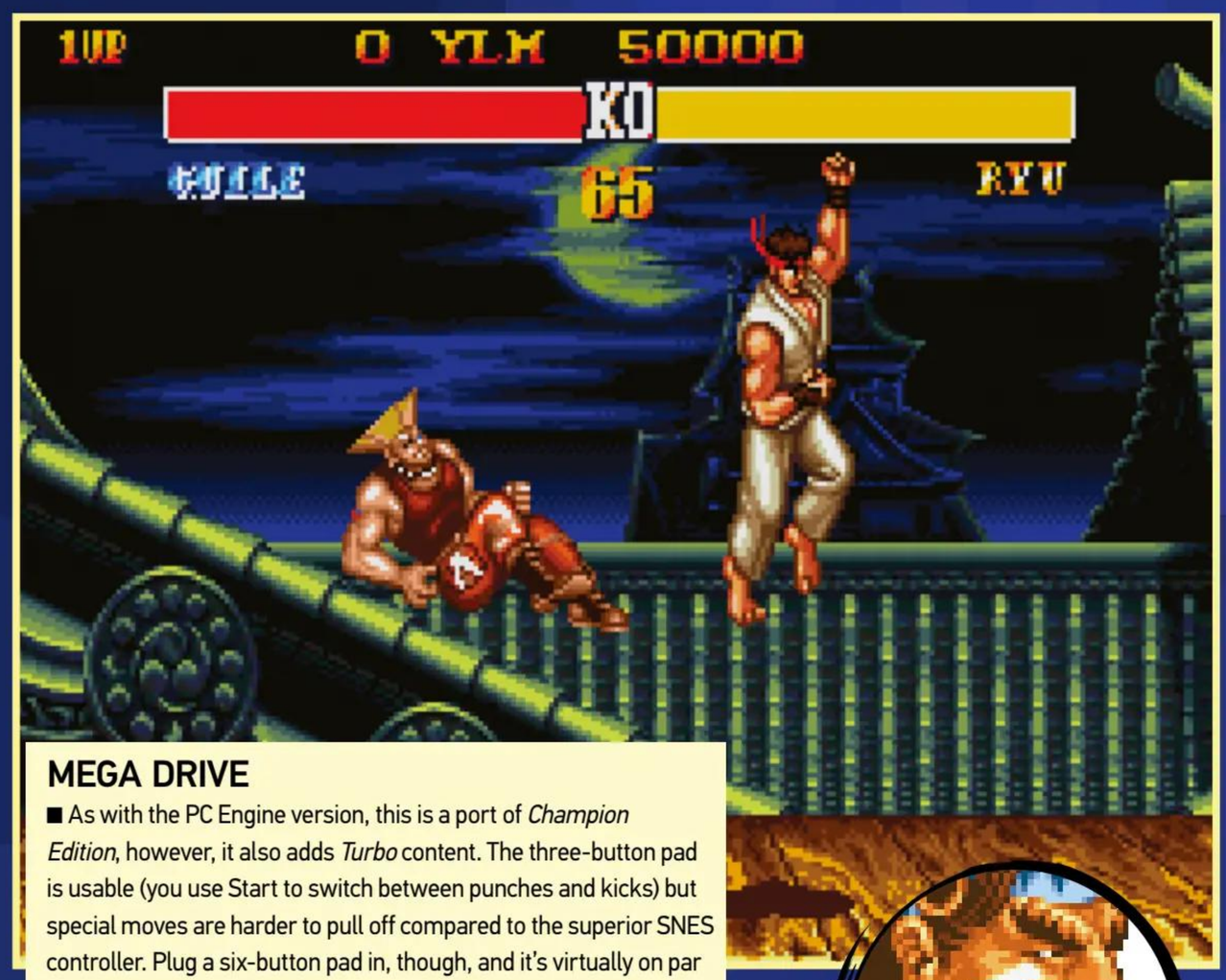
"I suppose we've been inspired by that game all along in how we develop the series," says Ono. "Most game series have new sequels which build upon the design of the previous titles, but *Street Fighter II* really started over from what was created in the original *Street Fighter*. When it came time to move to *Street Fighter III* and Street *Fighter IV*, we really started from scratch each time," the producer elaborates. "It was *Street Fighter II* that started this pattern in motion and [each new sequel]is another reset of the game and brings a new roster and new design. So you could say that what *Street Fighter II* did over 30 years ago – wait, it's over 35 years now! – has continued to influence us." We get the feeling it'll continue to do so for many more years to come. ✱

CAMMY

SPECIAL MOVES
(SU) Spiral Arrow: ↓↘→
(SU) Cannon Spike: →↓↘
(SU) Axle Spin Knuckle: ←↙↓↘→
(ST) Hooligan Combination: ↙↓↘→↗, then
(ST) Fatal Leg Twister: ←(Hold),→ (after Hooligan Combination, near head)
(ST) Cross Scissor Pressure: ←(Hold),→ (after Hooligan Combination, near body)
SUPER MOVE
(ST) Spin Drive Smasher: ↓↘→↓↘

CONVERSION CAPERS

We take a look at all the ports of Capcom's arcade smash hit



MEGA DRIVE

■ As with the PC Engine version, this is a port of *Champion Edition*, however, it also adds *Turbo* content. The three-button pad is usable (you use Start to switch between punches and kicks) but special moves are harder to pull off compared to the superior SNES controller. Plug a six-button pad in, though, and it's virtually on par with *Super Street Fighter II Turbo* on SNES.

SUPER NINTENDO

■ Its been superseded by later SNES *Street Fighter* ports, but the original conversion still holds up surprisingly well. It's very close to the arcade game in style (although there is a lot of missing content) and the controls are tight and responsive without the need for extra pads. Little wonder it was deemed the definitive home version of the game upon release.

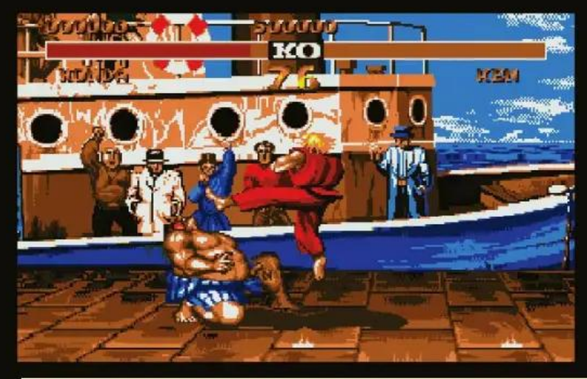
T. HAWK

SPECIAL MOVES
(SU) Condor Dive: (In air) (All)
(SU) Tomahawk Buster: →↓↘
(SU) Mexican Typhoon: (360)
SUPER MOVE
(ST) Double Typhoon: 2x(360)

» This beautiful sunburst is your reward for knocking out an opponent with a Super Combo. Take that!

ZX SPECTRUM

■ The Spectrum version looks great, but it's saddled by an astonishingly bad multi-load system. Like the other 8-bit ports it does cater for two-button sticks, but the base version — fire and forward for punch and fire and back for kick — is very hard to use.



ATARI ST

■ The Atari ST version suffers from all the same issues as the Amiga but manages to be even worse. The animation is particularly bad and the game is slower than its Amiga counterpart. It's slightly easier to pull off special moves, but it's still a poor port.

COMMODORE 64

■ The C64 version is quick, but that's pretty much all it has going for it. It's a buggy version of the game, with frequent odd pauses during play. Worse still, your characters occasionally get stuck on the backgrounds.

FEI LONG

SPECIAL MOVES

(SU) Rekka Ken: ↓↘→👊(perform up to 3 times)

(SU) Shien Kyaku: ←↙🦵

(ST) Rekku Kyaku: ↙↓↘→↗🦵

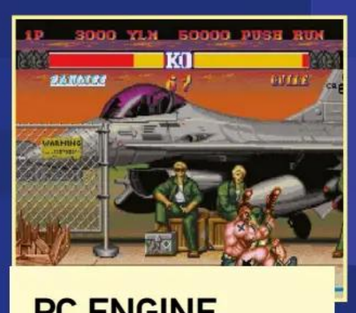
(ST) Shuu Kubi Raku: ↔(M/H) 👊(in air)

SUPER MOVE

(ST) Rekka Shinken: ↓↘→↓↘→👊

SHARP X68000

■ This is another *Champion Edition* port and is virtually arcade perfect, with only slightly different music. Control-wise it had the same issues are other home computers, but that's solved with a joystick adaptor. The only thing that ruins it is the constant swapping between four disks on certain systems.



PC ENGINE

■ When you consider the machine, this is a truly astonishing port and in some ways more impressive than the SNES version. It's rubbish to play with a standard pad, but luckily there's the option for six-button support.

DOS

■ The DOS version looks good, and it miles better looking that its Amiga and Atari ST counterparts. Even the animation is decent, although the music is nothing to write home about. It's still ruined by a clunky control system.

AMIGA

■ Despite some odd colouring the Amiga version looks authentic. But that falls apart once you see it moving, due to jerky animation and poor scrolling. Musically it's terrible, and it's hampered by the same poor control system found on the 8-bit conversions.

iOS

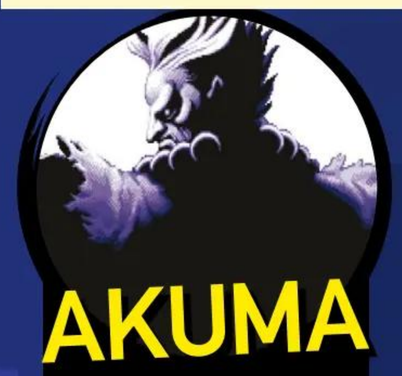
■ This is essentially the compilation released on Saturn and PlayStation, meaning it looks very nice. It's let down by the annoying virtual buttons and stick, though. Thankfully special moves are easy to pull off as they have their own separate buttons.

GAME BOY

■ This is a weird hodgepodge edition of games up to *Super Street Fighter II Turbo*. It's very well detailed for a Game Boy game with great looking sprites. It's missing Dhalsim, Vega and E. Honda and only has two buttons. Cleverly though, it changes the strength of kicks and punches based on how long you press the buttons for.

XBOX, PSP, PS2

■ These are emulated versions of the arcade versions. PS2 and Xbox owners want *Capcom Classics Collection Volume 1* with *Street Fighter II, Champion Edition* and *Street Fighter II Turbo: Hyper Fighting*. PSP owners need *Capcom Classics Collection Reloaded*.



AKUMA

SPECIAL MOVES

(ST) Gou Hadoken: ↓↘→👊

(ST) Zankuu Hadoken: ↓↘→👊(in air)

(ST) Shakunetsu Hadoken: ←↙↓↘→👊

(ST) Gou Shoryuken: →↓↘👊

(ST) Tatsumaki Zankukyaku: ↓↙←🦵

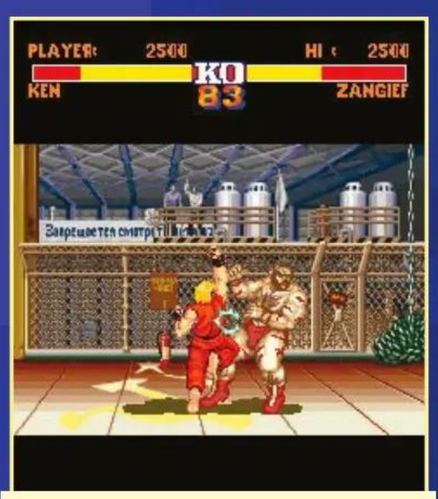
(ST) Kuchu Tatsumaki Zankukyaku: ↓↙←🦵(in air)

(ST) Ashura Senku (Forward): →↓↘(all)👊 or🦵

(ST) Ashura Senku (Backward): ←↓↙(all)👊 or🦵

MASTER SYSTEM

■ Based on *Champion Edition*, Master System *Street Fighter II* is clearly cut-down. Dhalsim, Zangief, E. Honda and Vega are missing. It's graphically impressive and has authentic tunes, but is let down by a distinct lack of buttons and poor controls.

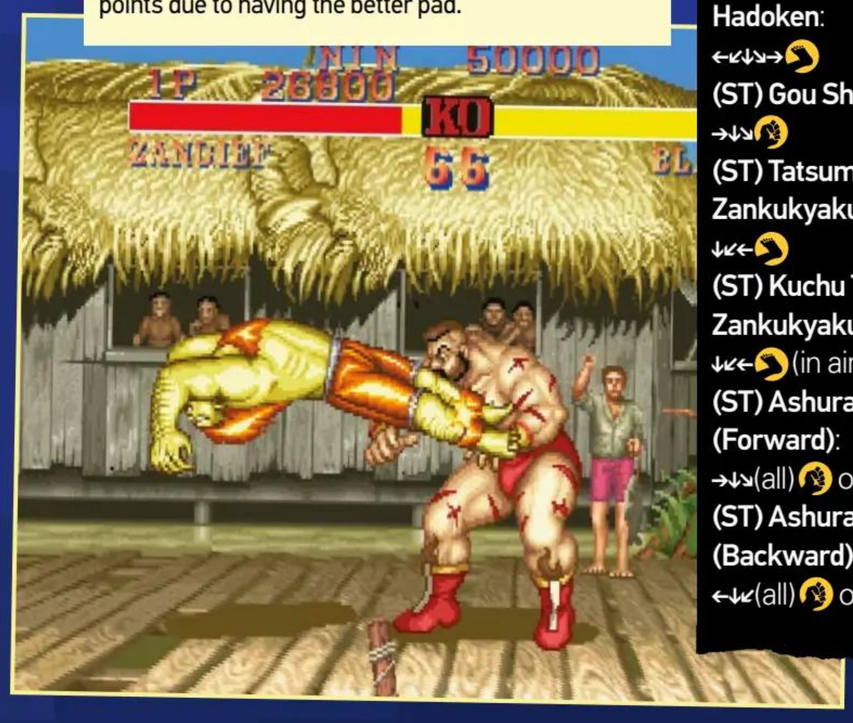


MOBILE

■ While the graphics are accurate, it's stiff and sluggish to play, and playing on a keypad makes it incredibly difficult to pull off special moves. An impressive effort, but a poor game.

PLAYSTATION/SATURN

■ As you'd expect, the versions released on *Capcom's Street Fighter II* and *Capcom Generations* collections are near perfect, with the Saturn ports winning bonus points due to having the better pad.



SONIC THE HEDGEHOG

SEGA

A powerful new 16-bit games console, continued pressure from a portly plumber, and a company firing on all cylinders led to one of Sega's finest hours in June 1991. Discover how a little blue hedgehog became the face of Sega

Before Sonic span onto the scene in a dazzling blur of cobalt blue, Sega's previous attempts to create a company mascot had been unsuccessful. Their primary intent was to capture hearts in the same way that Mario had done for Nintendo, but nothing seemed to fit. *Fantasy Zone*'s ovoid spaceship Opa-Opa is often referred to as the very first mascot, briefly holding on to the honour until a tracksuit-wearing, rock-smashing prince named Alex Kidd came along and took his paper crown.

But when creating Alex, it's debatable that Sega had hit upon the key ingredients that would give them a character to match the might of Mario. Younger and more athletic than Nintendo's tubby talisman, trained in a martial art and able to drive an assortment of vehicles, Alex exhibited many of the same characteristics that Sega would imbue into Alex's spiny successor. For connecting with a young audience, Alex certainly had a lot going for him. Unfortunately, he had a tough time competing against Nintendo's all-conquering NES, which at one time could be found in 1 in 4 American households.

Two years after the 1989 release of the Genesis in North America, Sega found itself in a fairly strong position stateside. Its arcade machines *Space Harrier*, *OutRun* and *Shinobi* were proving popular coin-guzzlers, and its powerful new 16-bit successor to the Master System was also selling well thanks to its impressive visuals and early library of arcade tie-ins. But conscious that Nintendo was preparing to release its 16-bit successor to the NES any day now, Sega knew it needed to find itself a Mario, and fast.

So it was that Sega of Japan famously set its best designers the task of coming up with a brand new hero to represent the company and its new console. During the initial ideas stage many designs were pitched and considered; rabbits, armadillos, even human characters, but in the end it was a teal-coloured hedgehog that was finally selected, put forward by artist Naoto Oshima, who had previously worked as a designer on the first two *Phantasy Star* games.

Originally dubbed Mr Needlemouse, Oshima's creation went through a number of changes before becoming the zippy blue hedgehog we know today. Early concepts for the character, which were dropped as a result of a makeover by Sega of America, had him playing in a rock band, his mouth drawn with fangs, and in a relationship with a blonde human girl named Madonna.

For obvious reasons Sonic's colour was altered to Sega blue, while Oshima has revealed that Sonic's iconic red power sneakers were inspired by a combination of the belt-strapped boots Michael Jackson's wore on the cover of his album *Bad* and the colour of Santa Claus, whom Oshima regarded

IN THE KNOW

- **PUBLISHER:** SEGA
- **DEVELOPER:** SEGA/SONIC TEAM
- **RELEASED:** 1991
- **PLATFORM:** MEGADRIVE
- **GENRE:** PLATFORM

DEVELOPER HIGHLIGHTS

PHANTASY STAR (PICTURED)
SYSTEM: SMS
YEAR: 1988

SONIC THE HEDGEHOG 2
SYSTEM: MEGA DRIVE
YEAR: 1992

SPACE HARRIER
SYSTEM: ARCADE
YEAR: 1985

» Naka feels that *Super Mario Bros.* and *Sonic* both influenced each other.

at the time as the most 'famous character in the world.' Blending all these visual elements together, Sega hoped it had the perfect character to appeal to an American market. All Oshima needed now was a striking game to show his creation off, and it was here that Sega bosses turned to a talented programmer named Yuji Naka.

Naka had become renowned in the company for his impressive programming skills thanks to his excellent work on the Master System game, *Phantasy Star*. He had also proven his skill for tackling the platform genre, with an impressive Mega Drive conversion of *Ghouls'n Ghosts*. And so Sega asked Naka and Hirokazu Yasuhara, *Sonic*'s game planner/level designer, to help Oshima bring Sonic to life and become the driving force in a team of AM8 developers. They were later famously renamed Sonic Team.

When work on the project began, Naka was adamant the game should be fast and exhilarating to show off the impressive processing speed of the Mega Drive. An important cornerstone for the game, Yuji Naka explains how it was *Super Mario Bros.* that inspired him to create the fastest platformer the world had ever seen.

"Every time I played the first stage I wondered why I couldn't clear it faster, the better I got playing it." Naka explains. "This feeling must have been the beginning of the idea of *Sonic*, as you get good at playing you can run through the stage really fast. I think *Sonic* itself turned out to be a totally different concept to *Super Mario Bros.* But I do feel it was a game that affected me very positively. There is a part in *Sonic 1* where Sonic swims in the water and eats bubbles to take his breath to go on. I was very happy when S*uper Mario Bros.* later used a similar system in one its sequels, because I felt we were inspiring each other."

Meanwhile, Yasahura's approach to *Sonic*'s level design was to create them in such a way that they would appeal to both casual and hardcore gamers. He set about achieving this by mixing fun level elements with challenging obstacles and moving parts. Of the seven zones in the game, Sonic's opening stage Green Hill Zone became the most iconic. A vibrant place featuring blue skies, lush green grass, chequerboard tunnels and loop the loops; the perfect playground for Sonic to showcase all his abilities. It was a brilliantly attention-grabbing introduction for gamers, and for those who had never owned a

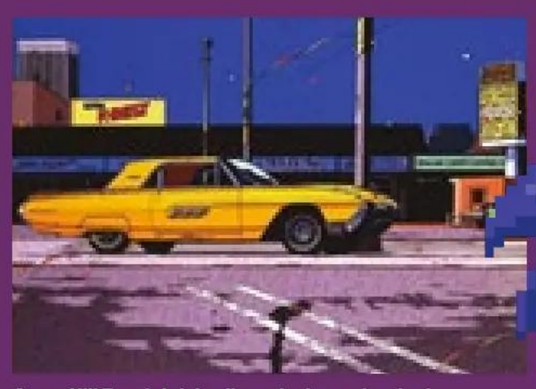
»Green Hill Zone, in all its eye-searing glory, went on to become one of the most recognisable levels in videogames.

THE ANTHRO ALSO-RAN

OF ALL THE CHARACTER designs put forward for consideration to Sega bosses and were dropped in favour of Sonic, it was the character of Mighty the Armadillo that received the most attention. Following the success of *Sonic the Hedgehog*, Sega decided to revisit and polish up the character for an appearance in the Sonic coin-op *SegaSonic The Hedgehog*. In the isometric trackball-controlled coin-op, Mighty worked alongside Sonic and another anthropomorphic character named Ray the Flying Squirrel to escape from Robotnik's booby-trapped island base. Mighty would later appear in 32X title *Knuckles Chaotix*, while Ray just received minor cameos in the recent *Sonic Generations* and the Saturn port of *Gale Racer* (aka *Rad Mobile*), which was the coin-op that marked Sonic's first ever videogame appearance, as a rear-view mirror ornament. Ray was seemingly deserted by Sega, but considering that he's an orange, long-tailed flying squirrel, we suspect the reason could be because he played a big part in the design and character of Sonic's popular sidekick Tails. Either that or Sega simply deemed the characters to be too similar and so they promptly showed Ray the exit.

THE OTHER SONIC 1

RELEASED SHORTLY AFTER the seminal Mega Drive hit, Sega created for its loyal 8-bit fans a unique version of *Sonic the Hedgehog* for the Master System. This 8-bit version differed in a number of ways from the original. It featured a new story and six zones; three based on the original but with altered layouts, and the others completely new. Many of the enemies made it across, as did all of Sonic's moves with the exception of his block-pushing animation. The game's development was handled by Ancient, a Japanese developer managed by revered Sega composer Yuzo Koshiro. Naturally then, Koshiro wrote the music for the game, which was a combination of tunes inspired by its 16-bit counterpart and brand new compositions. Overall, the 8-bit *Sonic the Hedgehog* is a fine standalone Sonic game, rather than a watered down port.



Green Hill Zone's bright vibrant look was inspired by the work of acclaimed Japanese illustrator Eizin Suzuki.

»The inventive bonus rounds quickly became a popular staple of the franchise.

console. So where did inspiration for this iconic stage come from?

"Green Hill Zone was inspired by California," Naka answers simply. "Also we were aiming to show the latest computer graphics at that time, which were using polygon and ray tracing, through pixel art to make it look very new. With regards to the colours, I believe they were inspired by a picture drawn by Eizin Suzuki."

Eizin Suzuki's work frequently features stunning pop city illustrations that look every bit the kind of artwork we'd have expected to see up on the walls inside Sega at that time. Often depicting bright realism with a vivid surreal edge, one piece in particular instantly catches our attention. It shows a classic red open-top sports car parked beside a welcoming beach-side restaurant. With its deep blue skies and engagingly expressive colours, the connection is clear.

From a technical perspective, Naka says that the biggest challenge in getting the Mega Drive to accommodate *Sonic* came from the processing speed of its hardware. And with *Sonic* pushing the Mega Drive in a way that no game had done before, there were several features that Naka and his team wanted to incorporate into the game, but with space and time constraints were unable to. Interestingly, one of these omitted features would later provide the starting point for the sequel, while another inadvertently give rise to a popular Sega motif.

"There were two features that we were not able to put into *Sonic 1*," Naka explains. "The first one was to support two players playing at the same time. At the last point of developing *Sonic* we were doing tests with splitscreen in order to allow two players to play at the same time. But my technical capability wasn't enough to allow the game to be completed with this feature. When we began work on *Sonic 2* we tested this first to ensure that a two-player game system was achieved before properly starting the project.

"We also tried to prepare a sound select screen, with pictures of Sonic's band, and Sonic singing and break-dancing. The pictures were mostly completed but we couldn't make this feature fully completed on schedule, so it was rejected. But the storage on the ROM to put this feature in was available because of this, so we added the "Sega" voice on the part where we showed the Sega logo. In the end, I think this was a good idea."

From the initial concept for *Sonic* that saw him playing in a rock band to the revelation of a sound select screen that had to be dropped, it's clear that Naka and his team always intended for music to play an important part of the game. We were therefore keen to find out how much planning went into that particular aspect, and how the team ensured it would enhance the overall experience for players as successfully as it did.

"It was just around the time when music in games was first getting exciting, so we asked Masato Nakamura, a member of Dreams Come True [a famous pop band in Japan] to make the music for each stage sound like it was based on each stage's image. *Sonic* also put

ZONED OUT

The many levels of Sonic The Hedgehog

GREEN HILL

This gorgeous zone is relatively easy to navigate thanks to its large stretches that feature very few enemies or hazards. Loops are in abundance, and Sonic is able to reach insane speeds. This is arguably one of the most iconic videogame levels of all time.

LABYRINTH

The maze of Labyrinth Zone can be a real headache to navigate. In addition to having to make your way from some trickily designed stages, many of the levels are mostly underwater. Sonic can only hold his breath for a limited time, so you need to find an air bubble or drown.

STAR LIGHT

Speed freaks will adore Star Light, as Sonic can really zoom through it. Many of the levels are filled with loops and enable Sonic to reach hyper-fast speeds. It has a real rollercoaster feel to it, but care must be taken as while there are only a few enemies they are often impervious to Sonic's attacks.

MARBLE

As its name suggest, Marble Zone is made of Marble. It's also a very hazardous zone, thanks to a large number of nasty spikes, falling chunks of ground, and trickling lava that Sonic needs to navigate. There's a lot of block pushing on this level, and therefore less whizzing.

SPRING YARD

We like Spring Yard Zone, and not just because it appears like a giant pinball table. It can be a little frustrating to negotiate due to the many bumpers and springs it features, but careful movement is the key to success. It also features plenty of cool secrets to discover.

SCRAP BRAIN

This is a truly frustrating level with all sorts of devious and downright nasty traps for Sonic to deal with. Conveyer belts, vanishing platforms and intermittent gas ruptures (which send up gouts of flame) all combine to make this a hellish stage that will require all your skills to negotiate.

FINAL

This isn't really a zone. It's where Sonic must face off against Dr Robotnik for the final time. It's little more than a short corridor which ends in a large room filled with dangerous energy balls and plungers that try to crush poor Sonic. Kill Dr Robotnik for the win.

a lot of pressure on us not only in regards to the music but the sound FX and jingles. We fixed these quite a lot to allow them to make players feel good while they play the game."

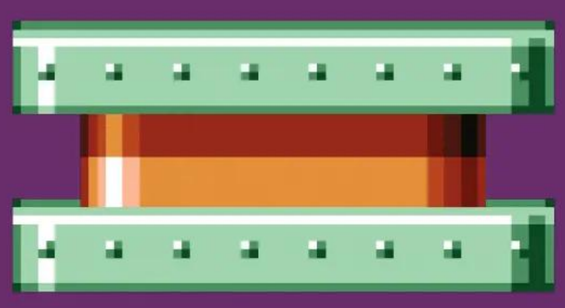
Initially Sega of America had doubts about Sonic's American appeal, concerned that Americans wouldn't know what a hedgehog was. However, following a few tweaks by SOA to soften up the character for Western gamers, a change that at first didn't go down too well with the members of Sonic Team, *Sonic the Hedgehog* was finished and released in 1991.

Looking more coin-op than console game, *Sonic the Hedgehog* helped to bridge the gap between those two markets more successfully than any Mega Drive title previously released, and became an instant hit. And when Nintendo finally released the SNES in North America later that year, it led to one of the biggest and most memorable console wars in gaming history.

Following an aggressive marketing campaign by SOA, Sonic quickly become synonymous with Sega. And when Sega of Japan gave into its initial reluctance to offer the game as a pack in with Genesis consoles, Sonic went on to play an even big role in helping Sega take majority share of the North American games market away from Nintendo.

Sonic's contribution to Sega's success certainly cannot be underplayed. But looking back on this most important of Sega success stories, which aspect of Sonic the Hedgehog is Naka most proud of?

"I think the fact the game is designed to be very fast but can also be controlled, and allow you to zip through the game nicely, is the part which I am most proud of," he concludes. "Many thanks to Sonic Team members for putting great effort into this part. I am also proud of Sonic being played by so many people around the world. Thank you so much."



Super Castlevania IV

It heralded the evolution of the franchise into 16-bit and was a technical showcase for the SNES. John Szczepaniak speaks with main programmer and total director, Jun Furano – known by his real name, Masahiro Ueno

IN THE KNOW

» **PUBLISHER:** KONAMI

» **DEVELOPER:** KONAMI

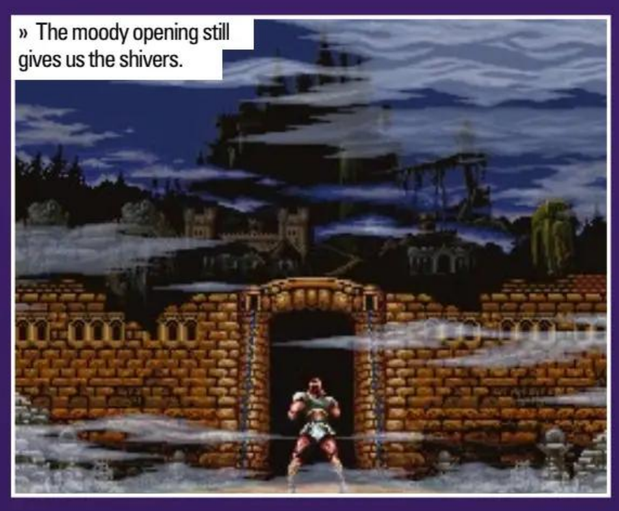
» **RELEASED:** 1991

» **PLATFORM:** SNES

» **GENRE:** PLATFORMER

Masahiro Ueno – or Mitch to his friends – has been involved with a lot of amazing games. Not that you'd always know this, as he was often credited as Jun Furano. "I used 'Jun Furano' as Konami did not allow us to use real names in game credits back then," reveals Ueno. "I made up the name after a Japanese TV drama called *Kita No Kunikara*. It took place in Furano, Hokkaido, and Jun was one of the main characters." This fish-out-of-water series was very popular in Japan, and involved a father taking his two children to live in the countryside.

It was common policy in the old days not to credit developers, or to do so under a nickname. Western fans have speculated if it was to prevent headhunting – the impression being that, in Japan, with the 'job for life' culture at the time, people seldom changed jobs. "I think it was to prevent headhunting," says Ueno.



» The moody opening still gives us the shivers.

"People move more often these days, but many of my old friends are still with Konami."

Unfortunately, this discrepancy with names means that websites aren't always complete. "MobyGames is missing some of the games I worked on," admits Ueno. "Such as *Track & Field II* on the NES, *Lethal Enforcers* for the Mega Drive and many more recent games." As a fresh university graduate when joining Konami, Ueno's first game was an educational title for the Famicom Disk System that was ultimately cancelled. His second game, which was his first to ship, was porting *Metal Gear* from the MSX2 to the

» Curiously, statues of vampire hunter Sypha Belnades seem to stand outside Dracula's castle.

Famicom in just three months. Changes were made at the request of management to differentiate the two versions – this also due to the limitations of the available Mapper chips. It was still an impressive achievement, and the game sold copious amounts in America.

Ueno continued to work with the Famicom on Japan exclusive games like *Ganbare Pennant Race!* and *MADARA*. In later years, he supervised Konami classics such as *Contra III* and *Axelay*, and played an integral role in the *Lethal Enforcers* series (including as an actor in the sequel). But, his first 16-bit role was *Super Castlevania IV* – aka *Akuma*jo Dracula in Japan – as the main programmer, enemy and boss programmer, as well as overall director.

"We started with a small R&D team, without actual dev kits. We only had a hard copy of specification documents"

MASAHIRO UENO

Super Castlevania IV was released in October 1991 for the Super Famicom, but working out when development started requires some detective work. For the sake of clarity, hereafter all mainline *Castlevania* games will be referred to as *CV*, followed by their number. "I don't recall exactly when we started the project," ponders Ueno, thinking back. Describing his thought process, the feeling is that it could have been in early 1990, but then he has a revelation: "*CVIII* on the Famicom was developed almost in parallel with *CVIV*, by the same people behind *CV* and *CVII*. We all worked closely with the sound team – Konami had the best sound team and they really did a great job." This is fascinating for several reasons. Firstly, the main team behind *CV* has never been disclosed as the original release featured fictional names. It also means that the original NES trilogy was developed by the same core team, while Ueno's team was brought in to get to grips with the new Nintendo hardware.

CVIII was released in Japan on 22 December 1989, meaning that Ueno would have had to have started before this, possibly using only proposed design specs for the as yet unreleased Super Famicom. "You are right," he concurs. "*CVIII* was released in late 1989, so the timeline [has to] match." Ueno adds, "I think we started *CVIV* almost as soon as we got the information from Nintendo, so we probably started the development of *CVIV* in 1989. I am not too sure though. It was more than 20 years ago!"

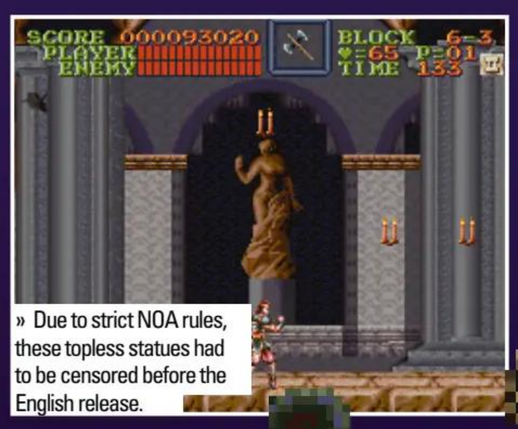
It's important to understand the underlying context of this era. The technological jump from the Famicom to the Super Famicom (released November 1990) was massive, with more noticeable results than the jumps we see today. How did it feel being on the cutting edge? "Naturally, we were so excited to work on the new console, as we felt we'd done everything we could do on the Famicom without additional chips in the cartridge." Ueno then reveals another clue that his team must have begun long before the Super Famicom had actually been released. "We started with a small R&D team, without actual dev kits. We only had a hard copy of specification documents."

"The Super Famicom was definitely more powerful than the Famicom, especially in graphics and sound," states Ueno, "but the CPU is a bit more difficult to work with as it's more like a slightly faster 8-bit CPU with integrated bank registers," he continues, detailing the technical side of SNES development. "Unlike modern consoles, we had access to all the hardware registers and we had to figure out how to use those effectively, which I really enjoyed. But, it took us some time and experiments to find the right ways to use various tricks during actual gameplay."

CVIV was the ninth release for the series – previously, there were three mainline Famicom games, unique standalone titles for the MSX2 and arcades, two Game Boy releases, plus a Famicom spin-off featuring Dracula's son. *Castlevania* was obviously important for Konami, as Ueno concurs. "The expectations were really high, as it was already a successful franchise and now on the new 'super' hardware. Personally, I liked the original *CV* the most back then. Of course, I played them all before we finalized the direction of *CVIV*."

Ueno proudly declares, "I wanted to make *CVIV* a pure action game without ▶

» Mode 7 sections like this started out as experiments, and then Ueno and his team thought of how to add fun gameplay.



» Due to strict NOA rules, these topless statues had to be censored before the English release.

» One mudman becomes two mudmen, and then four, and then they all die!

» Tread carefully – jumping on these platforms activates a trap that drops into a death pit.

ROGUE'S GALLERY

Your guide to Super Castlevania IV's superb bosses

MEDUSA

One of the series' most iconic enemies – appearing in just about every game, and based on the Greek legend of Perseus. In a beta video it seems that this boss appeared slightly different to the final version.

KORANOT

Known as Big Stone in the Japanese manual, the golem boss is Ueno's personal favourite. It first appeared in the *Haunted Castle* arcade game, and went on to feature regularly in the series.

PUWEYXIL

First seen in *Super Castlevania IV*. Known in Japan as Death Breath Head, the English name must be read backwards. It features a sprite-jointed tongue, impressive transparencies and real-time damage to the background.

ORPHIC VIPERS

Known in Japan as soutouryuu, meaning double-headed dragon, similar bosses also appeared in the earlier *Castlevania III* and *Boku Dracula-Kun*. It made a return in *Dracula X* on PC Engine and SNES.

THE MONSTER

...ot named as such, this iconic bos...s unmistakably based on the ...reature made by Dr Frankenstein, as ...eatured in Mary Shelley's eponymous novel. A series regular.

ZAPF BAT

One of the game's coolest bosses. Although giant bats have featured in just about every *Castlevania* game, only in *Castlevania IV* is one made out of possessed treasure!

AKMODAN II

Another series veteran appearing in most *CV* games, except this time he's been given a name in the US manual, reinforcing his Ancient Egyptian heritage.

SLOGRA

A unique boss created specifically for the final section of *Castlevania IV*, and one of the toughest. Slogra resembles a zombified pterodactyl. It was later re-used for *Symphony Of The Night* and subsequent games.

GAIBON

Another unique end boss created specifically for this release that you fight directly before Dracula. As with Slogra, Gaibon was re-used for *Symphony Of The Night* and subsequent games.

DRACULA

The main attraction. Having said that, the Japanese series name of *Akumajo Dracula* actually places more emphasis on the Count's 'demonic castle', than the vampire himself.

» It wouldn't be *Castlevania* without some well cured meat hiding in the walls.

▶ any RPG elements, similar to the original *CV*." This also brings up overlap with its direct predecessor. He continues, "*CVIII* is a great game though. If *CVIII* had [already been released] before we started *CVIV*, I would have followed that direction." The two games definitely share some DNA though, notably the twin-headed water dragon boss and a cameo appearance by *CVIII*'s Sypha Belnades (in statue form), just before entering Dracula's castle.

"Because the team was small," explains Ueno, "everybody was involved in the design. Some ideas came from creative artists and others were from programmers' experiments. The whip feature was really a big part of the game and it was experimented with and implemented by Yaipon. We drew maps on paper but I think we changed a lot as we iterated the game." Yaipon, also known as Yaiman, was of course Mitsuru Yaida, who programmed the player's character. He left Konami along with others to form Treasure, later programming *Gunstar Heroes*.

Ueno, meanwhile, was in charge of boss programming, so we asked about their design and his overall favourite. "I came up with rough boss ideas first and then [additional] programmers came up with more detailed patterns as they implemented. We wanted to make earlier bosses relatively easy so that the players could figure out weak points and effective weapons without retrying too many

» Everything seems fine, until the red hands in the wall grab you and the enemy walks forwards.

times. For some bosses and traps we decided to use Mode 7 first, then came up with ideas. I like the golem boss, simply because it uses Mode 7."

There's debate regarding whether *CVIV* is a remake of the original, which is controversial since it contains so many revolutionary elements – a better example of a remake would be *Akumajo Dracula* on the X68000 computer. But what does *CVIV*'s director think? "I consider *CVIV* as a remake of the original *CV* to some extent." But what about all the new features, like being able to leap on and off of stairs freely? "The original *CV* is a great game, but I felt it was a bit too difficult and many players got frustrated," continues Ueno. "The changes in the 'stair behaviour' was to give more control to the players and reduce the frustration. The new whip system was to introduce some new gameplay that had not been possible on the Famicom. We had freedom to make many changes, but we wanted to keep the game aligned with the original *CV*."

It wasn't always easy though, as Ueno tells us, "Like many other games, we had a long crunch time. Making a game on new hardware requires so much effort, so the crunch time lasted almost six months. But, we were so excited to work on the game. When the game was completed, as is always the case, I had mixed feelings. I was very satisfied with the fact we finally completed the game, but I also wanted more time to polish it."

Ueno is a bit unfair on himself though. Konami released a promotional video from an early build and, when you compare this early footage to the final version, it's astounding how much polish the team managed to add. "I was not aware of this promotion video, but it seems the footage was captured from an early build," admits Ueno, when given the YouTube link. We ask if anything was removed from this build due to memory restrictions, citing a snake-like boss which is different to the final Medusa. "I don't recall any severe memory restrictions back then, so I think these changes were made to improve gameplay."

CVIV is a phenomenal showcase of programming skill and design talent. Reflecting on this, we asked what Ueno was most proud of. "In addition to the new gameplay, I wanted to make the environment more interactive and lively. The music and sound effects really contributed to make the game's atmosphere spooky and real. So, I am proud of the atmosphere we created." And, would he change anything if he had a time machine? "I would probably add more branches to give the players a sense of exploration as found in other Castlevania games."

> **"Everybody was involved in the design. Some ideas came from creative artists and others were from programmers' experiments"**
> MASAHIRO UENO

While the fantastic *Indiana Jones*-style whip swinging wasn't resurrected for later instalments, *CVIV* still redefined a template that influenced the series for years to come, notably through several unique enemies which featured in *Symphony Of The Night*. What about the other 16-bit console releases on PC Engine and Mega Drive? "I remember I gave some feedback to the Mega Drive team, as the lead and I worked on the same projects before. I only had a little interaction with the PC Engine team as they were in a different group," admits Ueno. "Both games are great, and [the] PC Engine version brought the game to the next level."

DEVELOPER HIGHLIGHTS

METAL GEAR
SYSTEM: FAMICOM
YEAR: 1987

MADARA II
(PICTURED)
SYSTEM: SUPER FAMICOM
YEAR: 1993

LOST IN BLUE
SYSTEM: DS
YEAR: 2005

» Despite swinging being one of the best things about *CVIV*, it was strangely absent in future 2D instalments.

» Masahiro 'Mitch' Ueno – programming legend and all-round cool guy.

In addition to its own lineage, *CVIV* influenced other developers, such as C-Lab with Rusty for PC-98 and DOS computers. In this case it was almost a direct copy, right down to the whip swinging. "No, I am not aware of this game," declares Ueno. What's interesting about Rusty is that it was released in July 1993, predating *Dracula X* on PCE by over three months. Rusty also featured a screen-filling 'item crush' attack, which first appeared in an official *Castlevania* game with *Dracula X*. According to a detailed analysis on VGMuseum there are about 16 major similarities with the later released *Dracula X*, implying that the influence went both ways.

In the years following *CVIV*, Ueno eventually moved to Konami's US branch, heading up games like *Project Overkill* for PSone. Looking over the list provided, Ueno has worked on more than 60 games over the last 25 years, including as a producer on *Lost In Blue*, the *Frogger* series, *TMNT* and various *Sims* games while at EA. He's an unsung hero in an industry that favours anonymity.

Before parting company, we asked if he knew why *Contra III* was ported to GBA but not *CVIV*, and if he'd followed the release of *CVIV* on the Virtual Console. "I was not a part of porting discussions so I don't know," says Ueno regrettably. "I do have *CVIV* on my Wii though!" And with that, join him in the Director's Commentary section as he talks us through the various stages...

Special thanks to *Castlevania* expert Kurt Kalata for his help with this feature.

» Note how different the harpy sprite is in this version, resembling Lemmy from Motorhead a bit.

» *Rusty* may have copied *CVIV* when released in 1993, but did *Rusty* influence *Dracula X*? Google the names and VGMuseum for an analysis!

SUPER CASTLEVANIA IV THE DIRECTOR'S COMMENTARY

Masahiro Ueno gives us the lowdown on Super Castlevania IV's creepy castle

STAGE 3

Although there are no branching paths in *Super Castlevania*, we tried to make every stage different. There are four sections in this stage: you start outside, enter the caverns, climb a waterfall and finally, enter the moat area.

STAGE 4

This series of stages nicely shows how powerful the new hardware was: boss transparencies and jointed sprites, plus Mode 7 for the rotating room, spinning bridge, and final golem boss. I think it shows *Super Castlevania* at its best.

STAGE 5

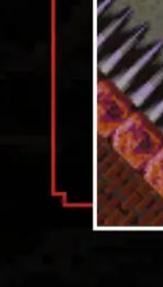
This is a short stage and there's no boss at the end. Also, the timer has been reduced, because we wanted to increase the feeling of rushing forward as players finally entered Dracula's castle. Now it really begins!

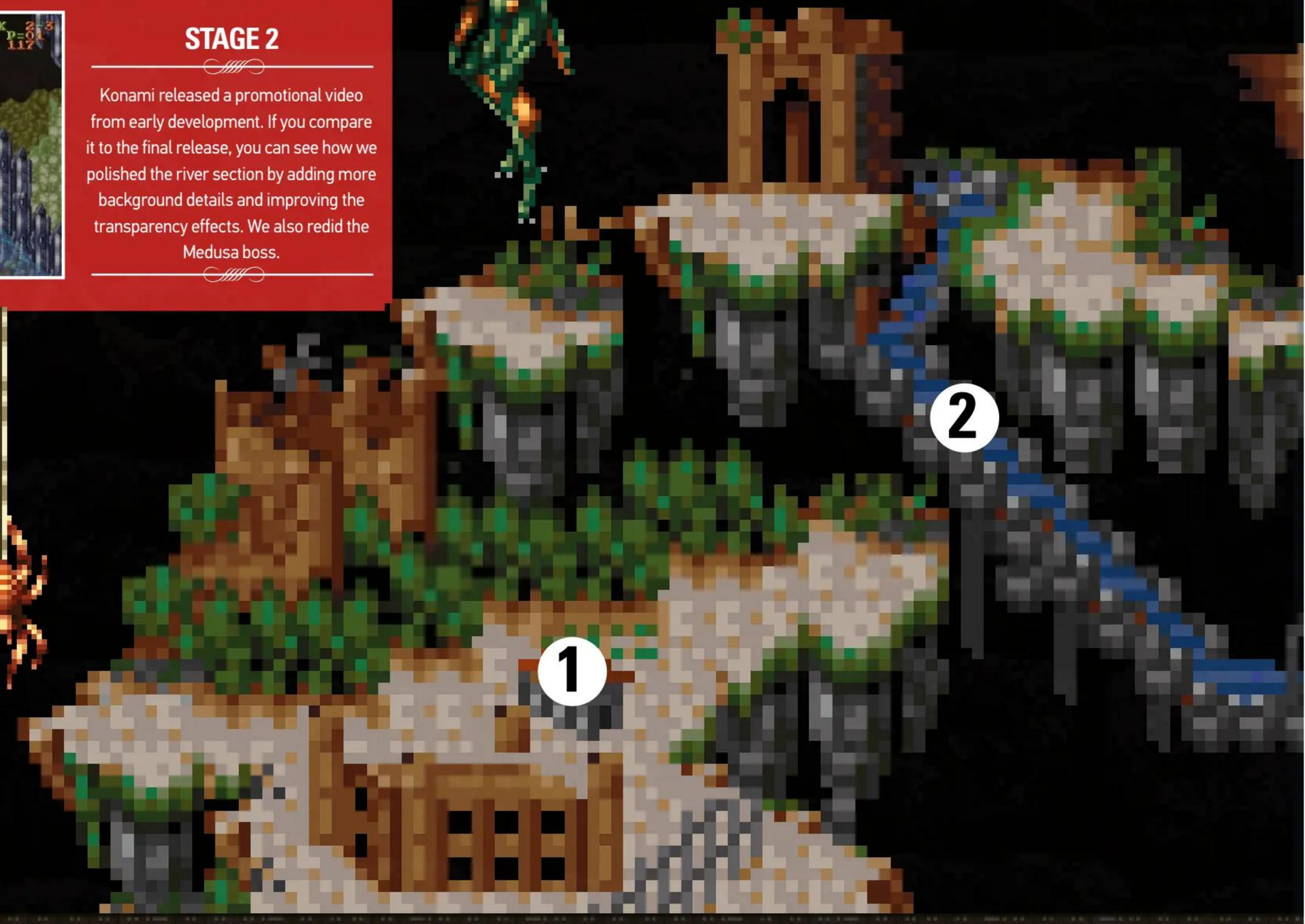
STAGE 2

Konami released a promotional video from early development. If you compare it to the final release, you can see how we polished the river section by adding more background details and improving the transparency effects. We also redid the Medusa boss.

STAGE 1

Some names were changed during translation into English. In the Japanese original, the flying horse heads were called 'Uma no Namakubi', loosely meaning 'freshly severed horse head'. In the English release it was changed to Mr Hed.





STAGE 6

You only see one swinging chandelier at a time because Mode 7 only rotates a single large background layer. If you're stuck on the boss check the wall before the steps, we hid a 1UP. Also, did you find the crying man and his dog?

STAGE 7

To keep players interested we continued to add new things to later stages. Here you will encounter the moving book platforms, and also two unique regular enemies: a giant centipede and a carpet monster that pushes you into spikes.

STAGE 8

I've been told players ask about the blood changing from red to green. I worked on both Japanese and English versions, so yes, I am aware of the changes. It's not serious – we were simply asked to change the colour palette.

STAGE 9

Always keep an eye out for any whip hooks high up. There's one area where you need to swing across to reach some power-ups. If you fall, you'll notice we placead the hooks slightly too high to reach from the ground.

STAGE 10B

I don't think many players discovered this at the time, but there's a secret area just before the final staircase to Dracula. Today with the internet, I think players have found all the secrets we added – or have you?

STAGE 10A

It would not be a proper *Castlevania* game without a clock tower and spinning gears. The Super Famicom allowed smoother animation for the cogs turning. Using your whip to hang from moving chains also allowed for new styles of gameplay.

STREETS OF RAGE

Artist Atsushi Seimiya explains how he helped create Sega's answer to Final Fight

IN THE KNOW

» **PUBLISHER:** SEGA
» **DEVELOPER:** SEGA AM7
» **RELEASED:** 1991
» **SYSTEM:** VARIOUS
» **GENRE:** BEAT-'EM-UP

It's hard to imagine today, but during the Eighties and Nineties, scrolling beat-'em-ups reigned supreme – particularly in arcades. Ever since Yoshihisa Kishimoto had perfected the formula with *Renegade* and the superb *Double Dragon* every other developer was eager to replicate the success, and many succeeded with their own long-running franchises.

Although Sega created several entertaining efforts during this time – *Altered Beast*, *Golden Axe* and *Alien Storm* – it was Capcom that truly ruled the genre, thanks to massively popular hits like *Dynasty Wars*, *Captain Commando and Final Fight*. The exploits of Haggar, Cody and Guy as they cleaned up the streets of Metro City turned into a big money spinner for Capcom, and *Final Fight* was soon licensed to numerous home computers, from the ZX Spectrum to Commodore's 16-bit Amiga. Nintendo quickly realised the popularity of Capcom's game, and locked it in as an early exclusive for its Super Nintendo.

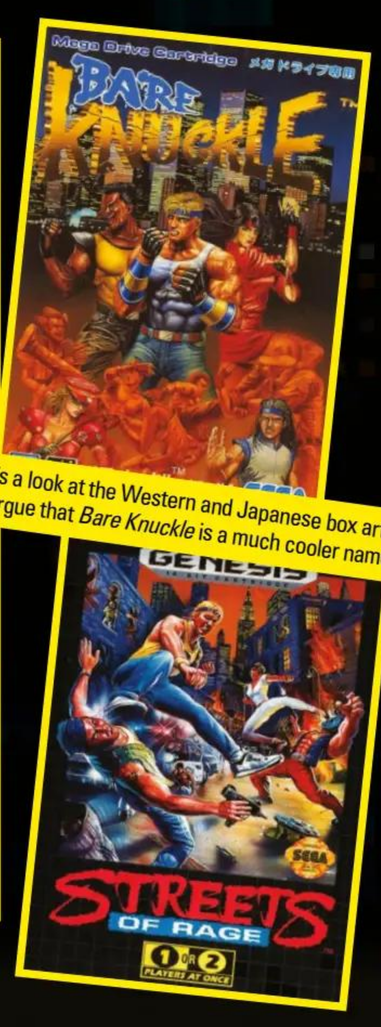
Even though it lacked the cooperative play of the arcade original and was missing an entire level (the Industrial Area in case you're wondering), it still proved to be a huge success for Nintendo and Capcom – so much so that two exclusive sequels were released on the console. Sega in the meantime was relegated to the sidelines, forced to look helplessly on while one of the arcade's most popular games was playing on its rival's console. History would reveal that an arguably better port of the popular beat-'em-up would eventually appear on Sega's very own Mega-CD, but that debut was still years off and Sega couldn't predict the future. It needed a game that would beat Nintendo's popular exclusive and it needed it now.

» Here are your three main heroes. We're ersonally big fans of Blaze Fielding.

The answer of course was to simply make its own game that did everything *Final Fight* did and more. That answer came in the form of *Streets Of Rage*, which debuted on Sega's Mega Drive in August 1991, some nine months after *Final Fight*'s successful SNES release. **Retro Gamer** was fortunate enough to speak with Atsushi Seimiya about his work on the iconic scrolling beat-'em-up. Currently he's the manager of AM R&D1, but during the creation of *Streets Of Rage* (or *Bare Knuckle* as it was known in Japan) he worked as an artist. The first question we asked was whether *Streets Of Rage* was always planned as Sega's answer to the popular SNES exclusive. "I cannot deny that it was not," is his honest reply. "Actually we bought a machine and studied it a lot as a team."

The team's close scrutiny of Capcom's game paid off. While it's not quite as slick as Capcom's original arcade release, it easily offered

» Playing with a friend adds a second boss to the end of each stage. Just to keep things a little more challenging.



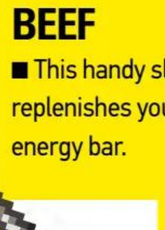
» Here's a look at the Western and Japanese box art. We'd argue that *Bare Knuckle* is a much cooler name.

POWER-UP!

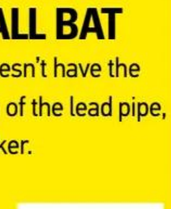
Take on the gangs with these handy items

BOTTLE
■ You'll only get a few hits with this weapon so try to use it sparingly.

APPLE
■ Take a bite out of this apple and receive a quarter of your energy bar back.

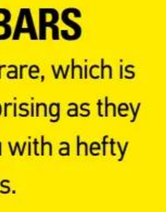


PEPPER SHAKER
■ Chuck it at an enemy then rip him apart while he's having a sneezing fit.



1-UP
■ It's tough on the streets, so pick this up in order to net yourself a handy extra life.

LEAD PIPE
■ Has the best reach by far in the game, but is quite slow and clunky to use.



CASH BAG
■ Thugs just leave their money lying around, so pick it up for a quick 1,000 points.

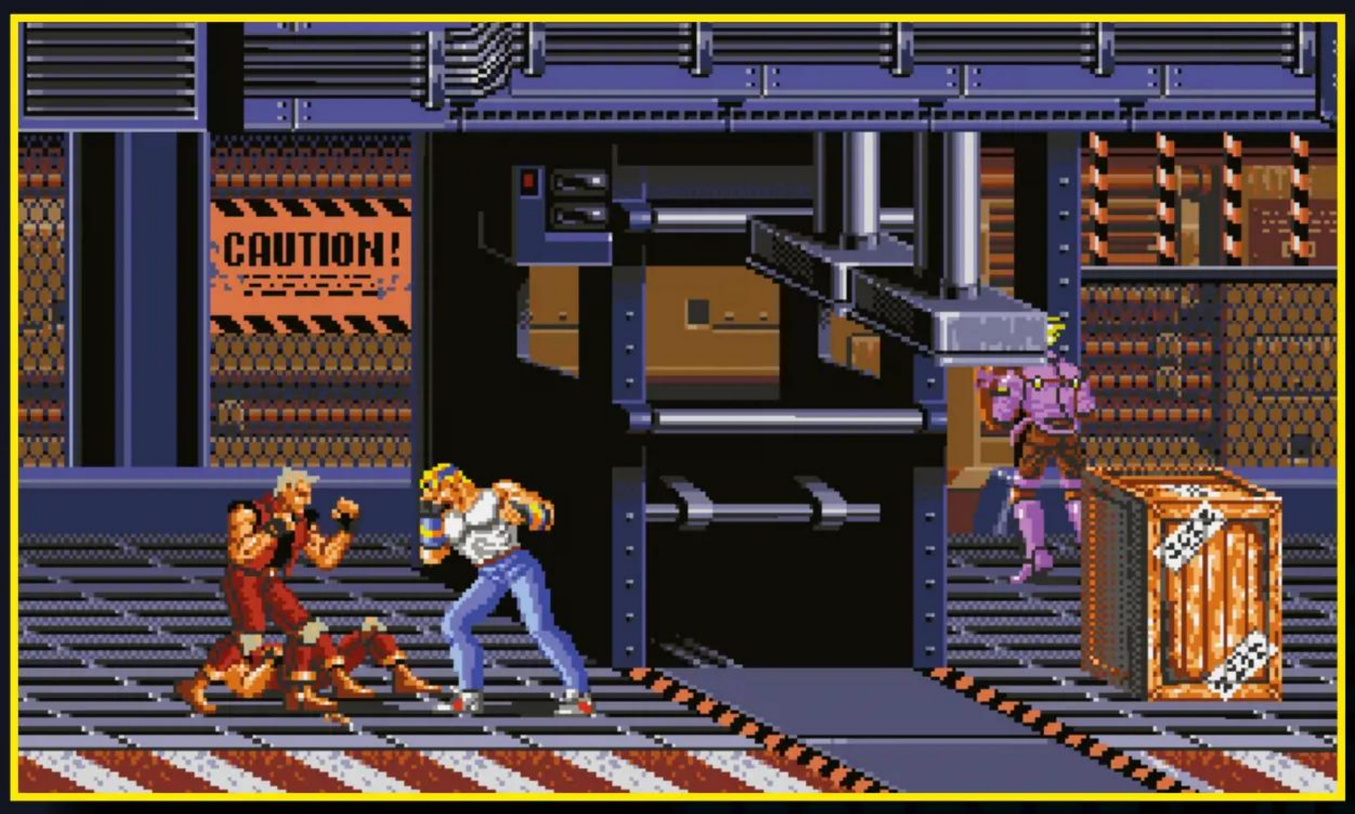
KNIFE
■ A fast weapon that deals high damage, it can also be hurled at enemies.

BEEF
■ This handy slab of meat replenishes your entire energy bar.

BASEBALL BAT
■ While it doesn't have the insane reach of the lead pipe, it's a lot quicker.

SPECIAL
■ Want some extra attack power? Then summon an extra police car with this.

GOLD BARS
■ Suitably rare, which is hardly surprising as they reward you with a hefty 5,000 points.



DEVELOPER HIGHLIGHTS

PHANTASY STAR
SYSTEM: MASTER SYSTEM
YEAR: 1987

SAKURA TAISEN
SYSTEM: SATURN
YEAR: 1996

NIGHTSHADE (PICTURED)
SYSTEM: PLAYSTATION 2
YEAR: 2003

» Each player has a unique special weapon attack. This one is by far the coolest.

» *Streets Of Rage* has an industrial stage. Take that SNES *Final Fight* fans, you had to go without.

plenty of benefits over the SNES port, most notably the fact that you could play with a friend, boosting the enjoyment of the game. Sega's game allowed you to choose from three brawlers who had all been slighted by nemesis Mr X, who controlled the city and even its police force. Like *Final Fight* each character is unique, each with their own strengths and weaknesses. Adam Hunter is clearly based on Haggar, being a slower, but heavier-hitting character, able to make mincemeat of groups. Blaze Fielding on the other hand plays more like Guy, being far quicker than her two male counterparts, but unable to take heavy hits. The last character is Axel Blaze, the everyman of the group who has Cody's all-round abilities but is hampered by a slightly weaker jump than his two companions. All three are ex-police, and have sworn to bring Mr X to justice.

We were keen to know the involvement that Seimiya had during the game's production. "As an artist, I worked on a wide range, from the player character, terrain, and the Boss, etc," he explains. "It was my first time working on the player character, so I had to go through a bunch of re-takes." It may have been a baptism of fire for the young artist, but the constant redesigns certainly paid off. Like *Final Fight*, *Streets Of Rage* has an interesting mix of gritty urban environments and cartoon-like characters. Many of the levels are quite similar to Capcom's game, with locations based on downtown streets and industrial areas. The variety is expanded with the addition of lovely stretches of beach, an exhilarating lift ride (no scrolling beat-'em-up is complete without one) and the final arduous trek through a corridor that leads to Mr X's penthouse, which effectively doubles as a boss rush for all the previous bosses. Unsurprisingly there was little originality to *Streets Of Rage*'s look with Seimiya admitting that Sega was simply delivering what it believed the public wanted. "*Final Fight*, *Double Dragon*… many arcade games back then were using the realistic game settings, and I think it was simply a trend," admits Seimiya.

It may have looked very similar to some of the more popular brawlers of the time, but Sega's game still managed to stand apart thanks to its varied locations, interesting level design and challenging bosses. It also boasted a menagerie of interesting enemies and bosses that came in a variety of shapes and sizes. In addition to the usual street thugs, there were guys who looked like rejects from *Teenage Mutant Ninja Turtles*, dominatrixes with vicious whips, crazy-haired planks juggling axes and flaming torches and well-dressed martial artists.

And then there were the bosses, a weird selection of mayors that ranged from claw-wielding maniacs to wrestlers that looked like the Ultimate Warrior's lost brother. Other memorable bosses were a giant fire-breathing fat man, and Mona and Lisa, two female adversaries who were effectively more powerful palette swaps of Blaze Fielding. Seimiya found himself working on both the enemies and the bosses, a task he found quite rewarding. "The design team would give me a request with the background story of the character, dot size, and reference materials for actions," he recalls. "I created the characters based on those kind of materials. It was challenging to come up with how to animate characters with a limited number of dot images."

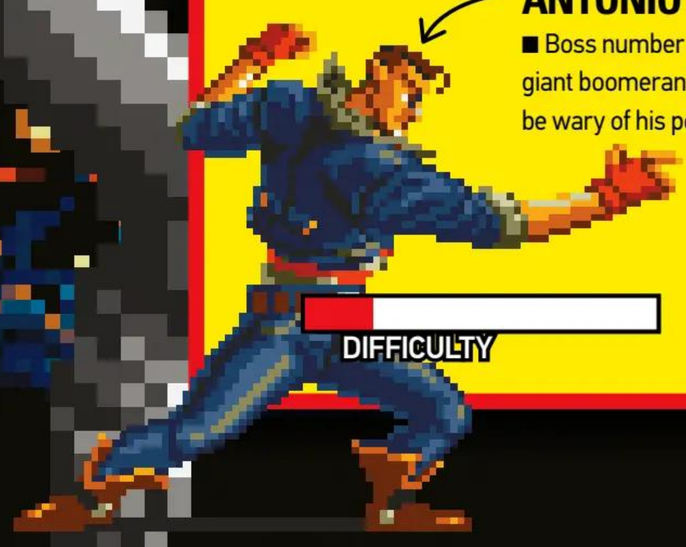
While we were discussing the various bosses of the game an interesting piece of information came up. While Seimiya was reluctant to share his favourite creation with us, he did reveal the following about the rather unimpressive pair of bosses found on level 5. "I do not remember all the details, but there was a special boss for stage 5 instead of Mona and Lisa," he recalls. Maybe one day

» There are a variety of weapons in the game. Use them wisely as they have limited uses.

» The music on this stage is incredible. It's a pity you can't hear it. It's really good. Honest!

BOSS RUSH

The mayors of Streets Of Rage and how to defeat them



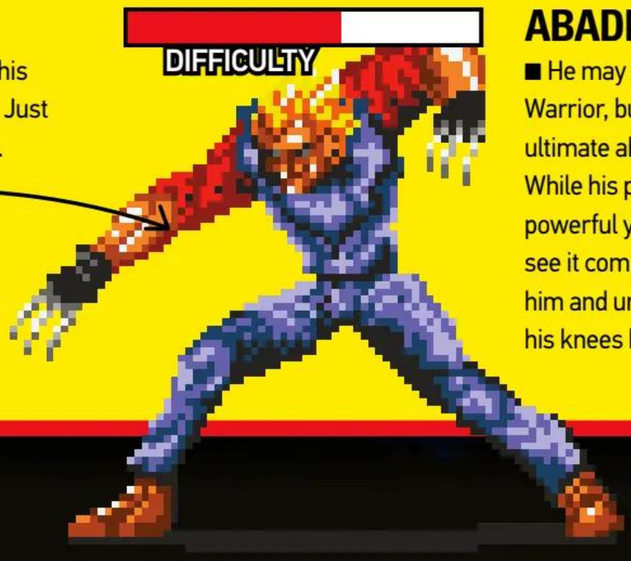
ANTONIO

■ Boss number one is pretty straightforward. Dodge the arc of his giant boomerang and move in for a flurry of punches of throws. Just be wary of his powerful kick that has quite an impressive reach.

DIFFICULTY

SOUTHERN

■ We hate this guy. His claws take huge amounts of energy off you and he's fast. Your best bet is to try and sneak up to him and deliver groin kicks. Don't jump near him.



DIFFICULTY

ABADEDE

■ He may look like the Ultimate Warrior, but there's nothing ultimate about this easy boss. While his punch is extremely powerful you can see easily see it coming. Simply sidestep him and unload your fury until his knees buckle.

DIFFICULTY

we'll find out what that boss was supposed to look like, but it at least explains why the two female fighters lacked the imagination found within the rest of the boss gallery.

Although *Streets Of Rage*'s bosses were tough, the three main characters were more than equipped to deal with them. All three had access to a flurry of kicks and punches and were also able to pull off flying kicks and use handy back attacks. Nothing revolutionary compared to what had come before it, but the controls were tight and responsive, meaning you always felt in control of the fighting. While enemies could grab and throw you, you were far from defenceless, being able to land on your feet with a well-timed press of the jump button and even attack enemies while you were being held. You could even team up with your fellow fighter to pull off trickier moves, while pressing A summoned a police car that fired a rocket that killed off most enemies. Sadly, Seimiya didn't have much involvement with the fighting mechanics, simply telling us: "I was pleased with the tag-moves which rewarded users to co-op with a friend."

Another aspect of the game that Seimiya was a fan of was *Streets Of Rage*'s scintillating soundtrack. While many will argue that the best tunes are found in the second game, it's still impossible to play the original without whistling or tapping your foot to the techno-infused tunes, as they perfectly complement the frantic on-screen battles. "[The music] was very important, and thus we used Yuzo Koshiro for the score," admits Seimiya, "as we did for the last game." The game he's talking about is *The Revenge Of Shinobi*, a rather superb sequel that married the arcade shenanigans of the original game to Koshiro's eclectic and bombastic score. There were additional connections to *The Revenge Of Shinobi*, as *Streets Of Rage*'s director Noriyoshi Ohba had overseen *Shinobi* as well.

In fact Seimiya feels that Ohba's directorial style is what led to *Streets Of Rage*'s unusual multiple endings, one of which gives you the option of teaming up with Mr X instead of trying to defeat him, telling us: "I guess it was his style to add a bit of spice to the script." We also discovered that *Streets Of Rage* was basically complete from a gameplay perspective. The finished release is exactly what Sega planned to make. "There were lot of assets that did not end up in the final game," admits Seimiya, "but features were all built in the final game."

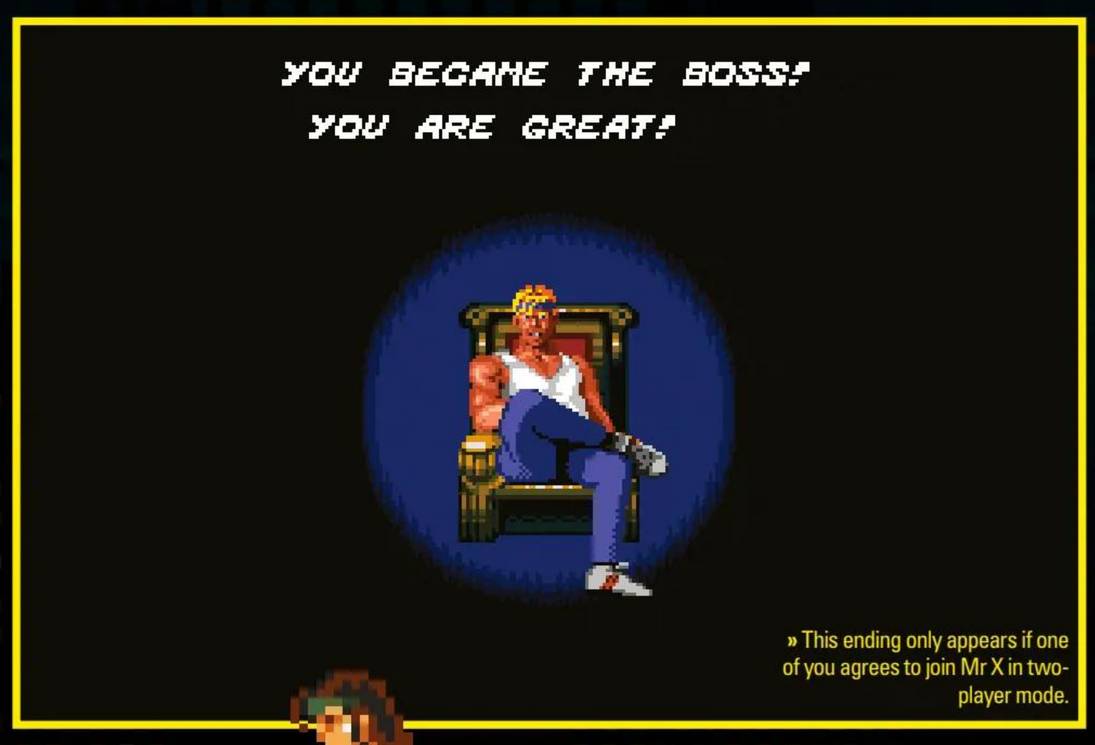
Streets Of Rage's release saw it receiving critical acclaim from journalists and strong sales. Its success on Sega's 16-bit console saw a cut-down version appear on the Game Gear in 1992 that lacked Adam as a playable character and a PAL-only Master System release in 1993 that dropped the co-op play. We were keen to know if Seimiya had any involvement with these inferior ports, only to be told: "No, I did not take part in those projects". The original Mega Drive version has popped up in various guises since, with one of the most impressive being M2's 3DS version, which creates a 3D playing area for the game, adding a scale of depth to proceedings.

While *Streets Of Rage* was a big success for Sega, it was the sequel, released in 1992 that really made gamers take notice of the franchise. Everything about it was bigger and better, from its incredible music compositions – again by Yuzo Koshiro – to its beefier sprites and larger range of combat moves. In fact, many still regard it as the pinnacle of the genre. Seimiya worked on the sequel as a background artist. He was also involved with 1994's *Street Of Rage 3*, infamous for its boxing kangaroo and the large amount of changes that were made between the Western and Eastern versions of the game. There was even a comic series, but again, Seimiya had nothing to do with it.

Although usurped by its superior sequel, *Streets Of Rage* remains an entertaining brawler and an important release in Sega's 16-bit battle against Nintendo. It's a pity then that, the odd update aside, Sega has done very little with the franchise since its 16-bit glory days. ★

» A nice touch to this stage is the constant bobbing of the ship you're on.

"Many arcade games back then were realistic, and I think it was simply a trend"
Atsushi Seimiya



» This ending only appears if one of you agrees to join Mr X in two-player mode.

DIFFICULTY

BIG BEN

■ A really frustrating boss, mainly because of the huge gout of flame he breathes, which is difficult to avoid. Be as quick as you can, get in close and hit hard. Do not try and throw him though as he'll crash and damage you.

DIFFICULTY

MONA & LISA

■ These two beauties are incredibly frustrating to battle. Keeping on the move and using your back attack is your best chance of success. Alternatively grab them and keep hold of them for as long as possible, or use flying kicks.

MR X

■ A suitably tough boss for the finale due to his quick rushes and the insane reach of his machine gun – that's right, he has a bloody big machine gun. Keep on him, hit hard and fast and keep an eye out for his numerous, hard-hitting minions.

DIFFICULTY

Refreshing a series for a new generation is tough, especially when it's a Zelda title. Nick Thorpe speaks to Takashi Tezuka and Kensuke Tanabe about the hard work that went into this action-RPG classic...

When you look back at the history of the series, *The Legend Of Zelda* occupies a funny space in Nintendo's planning processes. If a *Zelda* game arrives in time for a console launch, it's because the game was heavily delayed on the previous generation of hardware. Yet *Zelda* is never overlooked when a new Nintendo console is being planned – in fact, it's often one of the very first things considered for a new machine. Our first look at *The Legend Of Zelda: The Wind Waker* came before the GameCube had hit the shelves, but the game launched over a year into the life of the machine. A demo of what would eventually become *The Legend Of Zelda: The Ocarina Of Time* was shown to attendees of Nintendo's Shoshinkai 1995 expo, but the game didn't materialise until 1998. But the game that started this tradition was *The Legend Of Zelda: A Link To The Past*, the game that marked Link's move off of 8-bit platforms.

In planning the launch of the 16-bit SNES platform, Nintendo identified two basic software needs: new properties that could demonstrate the power of the new hardware, and more of what had made the NES successful. For the former category, Nintendo chose racing and flight games that would be impossible to achieve on rival consoles, and delivered a one-two punch of *F-Zero* and *Pilotwings* in November and December 1990. For the latter, Nintendo chose to immediately develop follow-ups to its most popular NES properties – the *Super Mario Bros.* and *The Legend Of Zelda* series.

HYRULE'S HEROES

The A Link To The Past developers we spoke to

TAKASHI TEZUKA
Director

KENSUKE TANABE
Script Writer

However, creating a new Zelda was a bit more difficult than creating another Mario game – Mario games were all very similar, but The Le*gend Of Zelda* and *Zelda II: Link's Adventure* were very different games. This left the Nintendo EAD team with some big decisions to make regarding its approach to the new game. "In *Zelda II: The Adventure Of Link*, we wanted to include sword combat with a variety of different moves into the gameplay, and so decided the project would use a side-scrolling view that made use of our experience from *Super Mario* games," explains Takashi Tezuka, a veteran Nintendo developer who served as director for both *The Legend Of Zelda* and *The Legend Of Zelda: A Link To The Past*. "We made two *Zelda* games for the NES, both making the most of that hardware. But then with the next *Zelda* for the SNES, we were able to add even more new things to the gameplay."

The final decision on which structure to use was driven by the concept of the game, according to Tezuka. "When we were starting the project, we experimented to see if it was possible to include a multi-world structure into the game. Our plan was that events in the hub world would have an effect on the other, overlapping worlds," he explains. "In the end, we decided it would be best for us, the developers, as well as for players to have this as two worlds; one light, one dark. We felt the best way to represent this overlap of light and dark, and to represent the changes between them, was to use the same slanted top-down view used in the original *The Legend Of Zelda* game."

It's rare for a company to discard the major changes made to a sequel, but it would prove to be a wise decision. Quite apart from the fact that *Zelda II* has become known as one of the weaker games in the series as time has passed, there was still a lot that Nintendo could change and improve in going back to the old top-down format. Even very basic things were overhauled, such as the way Link moved around the environment – for the first time, he was able to move diagonally as well as in the four cardinal directions. Rather than using a simple thrust, Link would actually swing his sword in a more realistic arc.

According to a 1992 Famitsu interview with Shigeru Miyamoto, this combination of new features actually gave way to another new feature. With the addition of

LINK'S ARSENAL

A hero can't get the job done without the right tools...

BOW & ARROW

■ A good ranged weapon, although you have a limited supply of arrows.

BOOMERANG

■ This doesn't just hurt enemies, it retrieves far-off items too.

HOOKSHOT

■ This item can pull Link across dangerous gaps, or grab baddies.

BOMB

■ Does what it says on the tin – place it and run away!

ETHER MEDALLION

■ An enormous blast of lightning fries flying enemies and stuns the rest.

QUAKE MEDALLION

■ A mighty tremor reduces grounded enemies to either nothing or slime.

LAMP

■ Useful for lighting up the game's many dark rooms by igniting torches.

MAGIC HAMMER

■ This versatile tool and weapon is useful against frozen enemies.

CANE OF SOMARIA

■ This is used to instantly create blocks – good for weights and shielding.

CANE OF BYRNA

■ This awesome item shields Link and hurts enemies in the process!

MAGIC CAPE

■ This fashionable item makes Link both invisible and invincible.

MAGIC MIRROR

■ An important item, as it's Link's path between the Light and Dark Worlds

LINK SHRINKS

The only port of Link's 16-bit adventure received some major upgrades...

The prospect of SNES-quality games on the Game Boy Advance was one that intrigued gamers around the world, and Nintendo set about making sure that a number of them would be available for dedicated fans, with *The Legend Of Zelda: A Link To The Past* being one of the earlier examples. The game ran at the slightly lower screen resolution of 240x160 (as opposed to 256x224), but received slightly more accurate translation and some minor bug fixes.

However, the game also received a major new mode in the form of the co-operative game *Four Swords*, which allowed up to four players to quest together as various coloured Links using the GBA's Link Cable. If you finished that quest, it was then possible to play through a new single-player dungeon as a reward, facing numerous stronger versions of the Dark World bosses before coming face to face with a surprising final enemy.

Not only did the GBA game sell an impressive 1.8 million units, but *Four Swords* left its own legacy, spawning the dedicated multiplayer GameCube sequel *The Legend Of Zelda: Four Swords Adventures* and the 3DS game *The Legend Of Zelda: Tri-Force Heroes*. *Four Swords* was also rereleased as a limited anniversary edition downloadable game for the Nintendo DSi and 3DS handhelds.

▶ diagonal movement, the Nintendo EAD team had made the logical assumption that Link should be able to attack diagonally, too. However, in practice it actually made the controls feel somewhat worse, and Link was once again saddled with the ability to move in eight directions but face only four. Undeterred, the team found a way to add a multi-directional attack in the form of a spin attack, activated by holding the sword button down for a couple of seconds. This elegant solution would go on to feature in many subsequent Zelda games and become a staple of the series.

Other changes to the use of weaponry and items were considered too, according to Tezuka. "At the start of development, we wanted players to be able to freely choose which weapons to hold, not just the sword and shield," explains the game director. "We also thought about having these weapons combine, say for example, having the Bow & Arrows set to the A Button and a Bomb to B Button so that when you use them together (i.e. press both the buttons), Link would shoot an arrow with a bomb attached." This would have revolutionised *Zelda*'s combat system, but ultimately didn't come to pass – however, it might sound familiar to fans of the series. "In the end we didn't use this in *A Link To The Past*, as Shigeru Miyamoto requested that Link always have the sword equipped," Tezuka recalls. "We were able to implement this system in the next title, *Link's Awakening*, though."

Working with the SNES also opened up a world of new possibilities for the Nintendo development team. "The new hardware allowed us to do things we hadn't been able to until that point. I'd only been drawing four-colour pixel images up until then, so even simply just increasing the number of colours available to use to 16 or 256 colours, as well as being able to use high-quality sounds, was really exciting for me," explains Tezuka. "Figuring out how best to effectively reflect the features of the hardware into a game is always a challenge that Nintendo's game designers face, and not limited to this game," notes Kensuke Tanabe, the scriptwriter for *A Link To The Past*. "For me, who'd studied visuals at university, being able to use two 'animation cells' and having the possibility to scroll them separately was a huge deal."

The technique that Tanabe refers to above is that of using multiple background layers. On the NES, it was only possible to draw a single layer of background graphics and a single layer of sprite graphics. With the SNES, developers had the luxury of multiple background layers. For example, in *A Link To The Past*, one layer is used to display the stage layout and a second layer is reserved for special effects. A third layer is used to display the HUD, which never moves. "Using it allowed us to create the raining scene at the very start of the adventure, as well as show sunlight filtering down through the leaves in the forest," Tanabe recalls of the special effects layer. "It's the effect of the sunlight in the forest that I'm particularly fond of. I'm also really pleased that we were able to display which floor a player is on by using two "animation cells". This was actually a

» The memorable rainy intro to *A Link To The Past* was only possible with the power of the SNES.

MAGIC POWDER
■ This can transform enemies into weak or even helpful creatures!

FIRE ROD
■ Use this to send a burning blast in the direction of your foes.

ICE ROD
■ Freeze the enemy with this vital piece of magical weaponry.

BOMBOS MEDALLION
■ Hit everything on screen with fire magic, at great magical cost.

FLUTE
■ This ocarina-shaped object can summon a bird for fast travel.

BUG-CATCHING NET
■ If you want to put a bee or fairy in a bottle, you'll need this.

BOOK OF MUDORA
■ This allows Link to read Ancient Hylian, often used in magical places.

BOTTLE
■ These handy containers can hold potions, fairies and even bees.

PEGASUS SHOES
■ Footwear that allows Link to perform a speedy dash attack.

POWER GLOVE
■ No dodgy NES peripherals here – this lets Link lift some heavy objects.

FLIPPERS
■ Worth the 500 Rupees the Zora charges, as you'll be able to swim!

MOON PEARL
■ Without it, Link would lose his human form in the Dark World.

"Shigeru Miyamoto requested that Link always have the sword equipped"
Takashi Tezuka

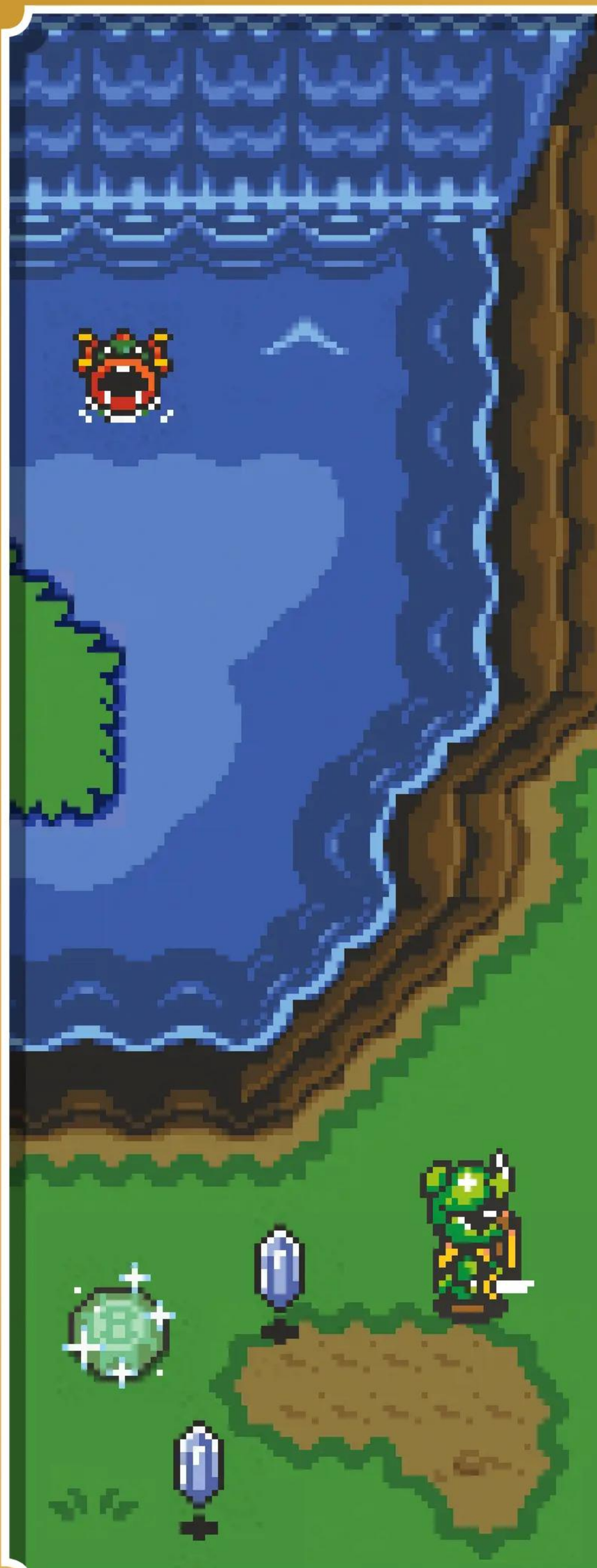
suggestion from the engineering team."
Despite the new possibilities, technical issues were rare. "Our game designers had a pretty good idea of what could be done on the hardware back then, so I don't believe we had any unexpected implementations," Tezuka confirms, though he does note one important exception. "Having said that, though, we had a long battle with the memory size, and I remember very clearly that the engineering team worked extremely hard to optimise it." Prior to *The Legend Of Zelda: A Link To The Past*, all of Nintendo's first-party SNES games had used a minimal ROM size of just four megabits. Not only did the new *Zelda* require eight megabits of storage, it was pushing that limit. A simple graphical compression routine was brought over from *Super Mario World* to combat this, which saved space by limiting many graphical tiles to eight colours, rather than the standard 16 that the SNES is capable of. With data duplication cut to an absolute minimum, the game was able to fit into the ROM allocated. Even then, translating the game from Japanese once again challenged this limit. In his 1992 *Famitsu* interview, Miyamoto explained that the original plan was to use a higher capacity cartridge for the translated game, and use what extra space remained afterwards to make some improvements to the Western releases. However, further compression rendered increased capacity unnecessary.

» The dastardly wizard Agahnim has got Zelda, and now he's zapping her into the Dark World!

The 16-bit versions of both Mario and Zelda had entered development at the same time, but while Mario stuck to its planned trajectory and made it out for the November 1990 launch of the console, Zelda's planned arrival in March was going to be impossible. In fact, by the time that eager gamers in Japan were trying out the new Super Famicom for the first time, Nintendo EAD was only just confident of the game system it had settled upon! The next step was to add the additional staff to complete the work by adding in enemies, a scenario and more. In an interview for the official *Super Mario World* guide book in Japan, Miyamoto estimated that the game would be completed by Children's Day (May 5th) in 1991 in anticipation of a summer release, but this turned out to be an underestimation. According to Miyamoto's 1992 Famitsu interview, implementing these final features took about eight months, pushing the game back further from summer to winter.

If there's any reason that *A Link To The Past* took longer than expected, it might well be because of how much attention was paid to the plot of the game. Right from the start, it was clear that it would be told in more detail and with greater dramatic flair than the NES *Zelda* games were capable of, and that item acquisition would be closely tied to story progression. A clear example of this comes in the game's opening sequence – by contrast to the earlier games, the SNES game offered a far more structured introduction to Link's quest. "In *A Link To The Past*, the game starts with a dark, rainy scene, with Link being just a regular village boy who, in the same situation as the player, doesn't really know what's going on, but just follows Princess Zelda's voice and works to save her. However, in doing this he somehow ends up becoming an outlaw. We wanted players to start feeling excited and wonder what will happen next," explains Tezuka. It's a dramatic opening, but finding and rescuing the princess so early on definitely surprised some players, who felt that the game was going to end quite suddenly. "We didn't intend to make players feel like the game was going to end there," admits Tezuka, who always saw Link's ascension to heroism in a rather different way.
The previous games had just dropped the player into the world and allowed them to get on with it, but this would not be an approach that would be repeated in *A Link To The Past*. "We didn't have Link start out as a sword-wielding hero right from the start, because we had already decided at the beginning of the project that we wanted him to awaken as a hero when he pulls out the Master Sword," explains Tezuka. "We did

» The moment when Link gains the Master Sword is a pivotal and iconic scene in the game.



▶ make a number of adjustments to the placement and ordering of the weapons and items so that we could get the ideal flow for the game, no matter the player or play style," he continues. Instead of starting out as a bona-fide hero, Link would acquire a variety of items over the course of the game and experience his development naturally. "We thought that players would form an emotional connection with Link as they play and by the time he ultimately becomes a hero, it would just be natural that he can use a variety of different weapons," Tezuka confirms.

Of course, the most memorable weapon to be introduced in *A Link To The Past* was the Master Sword, a blade that has endured over the decades as a key piece of the *Zelda* mythology. As Tezuka alluded to earlier, the scene where Link gains the sword was one of the most crucial parts of the project. "Kensuke Tanabe already had an idea for a truly memorable hero-awakening scene when we started this project," recalls the director, crediting the script writer for the idea. "In the midst of a forest, with light filtering down through the leaves, the sword stood waiting for someone worthy of wielding it to arrive (the illustration on the Japanese package shows this). Link draws the sword out as the light trickles through the leaves."

In order to draw the sword, one needs to have both inherited the blood of the family of knights who protect Princess Zelda, as well as possess the three pendants. From the moment Link pulls the sword out, it recognises him as a hero, and grants him its power," says Tezuka, with his accurate recall of the plot standing as testament to the importance with which it was treated. The Master Sword was also given its mythological importance at this early stage, as Tezuka recalls: "We also decided then that the Master Sword was a sword that alone holds the power to repel evil, and I suspect this is why it continues to carry such an important role in the rest of the series."

However, the Master Sword scene isn't just symbolic. "It's at this point that the game's real battle starts," the director notes. "Our main aim was to show the birth of a hero in a scene fitting of *The Legend Of Zelda*, and overlap this with a sense of achievement for the player that they have been recognised as a hero after having overcome many challenges." Instead of being a moment of triumph, it's a turning point which ultimately leads to the introduction of the game's dual world concept. "What we had decided on from the start was that Link would first become a hero in the Light World and defeat the first boss," says Tezuka. "From that point is when his battle to defeat the real enemy, Ganon, in the Dark World begins."

The Legend Of Zelda: A Link To The Past was released on November 21st 1991 in Japan, with North American and European releases following on April 13th 1992 and September 24th 1992 respectively. No matter where you were in the world, the game was regarded as an instant classic. Critical praise was unanimous – *Computer & Video Games* awarded the game 89%, noting that "the elements of strategy and adventure are

BOSS RUSH

While many foes stand in Link's way, these bosses are easily the deadliest dozen...

ARMOS KNIGHTS

■ These six knights attack in a regimented formation, no matter where they're pushed in combat. When they attack in a full row, make sure to slow one knight down with arrows to break the line.

LANMOLAS

■ It's hard to predict the movements of this trio of burrowing sandworm-like enemies. Their heads are their weak points – the sword is effective, but try arrows or the ice rod if you need distance.

MOLDORM

■ This nasty piece of work likes to push you off the stage onto the floor below, which resets the battle completely. Try your hardest to avoid being hit as you swing your sword at its tail, which is its weakness.

AGAHNIM

■ The wizard behind Zelda's kidnap looks unthreatening, but wields potent magic attack spells. Some of these can be reflected back by swinging the Master Sword, so get ready to return service!

HELMASAUR KING

■ This fiery-tempered individual will give any self-proclaimed heroes a warm welcome with his hot breath. To cool him off, first smash his mask with the hammer and then hit him with the sword until he's dead.

ARRGHUS

■ This floating foe is a tricky one to hit, and brings an entourage of meanies with it. Pull away the smaller Arrgi with the Hookshot, and then get to work with the sword when Arrghus crashes to the floor.

> **"Our main aim was to show the birth of a hero in a scene fitting of a Zelda [game]"**
> Takashi Tezuka

added treats rather than annoying extras." A review in *Mean Machines* scored the game 95% and declared it "simply the greatest exploration/adventure game available for a console," while *Super Play Gold*'s 93% review noted that "you're unlikely to want to switch the game off". The game sold a massive 4.61 million copies on the SNES, and ultimately spawned both a successful rerelease on the Game Boy Advance as well as a successor for the Nintendo 3DS, *The Legend Of Zelda: A Link Between Worlds*.

Despite the excellent quality of *The Legend Of Zelda: A Link To The Past*, it would ultimately prove to be the end of the line for the *Zelda* series as players had known it, as the series was about to undergo a radical change. The next mainline sequel was *The Legend Of Zelda: The Ocarina Of Time*, which transformed the series with open 3D spaces and more. While smaller 2D *Zelda* games would continue to appear on the Game Boy platforms, including the excellent *Link's Awakening*, *Oracle Of Ages And Oracle Of Seasons* and *The Minish Cap*, there was never another 2D Zelda game to get the big budget treatment that *A Link To The Past* received.

But that's not to say that *A Link To The Past* hasn't had a lasting influence, not by a long shot. Elements from the game including the spin attack, the Hookshot and the Master Sword have become series regulars, and that dual-world concept has been revisited very frequently – just look at young Link and adult Link in *Ocarina Of Time*, or human Link and wolf Link in *Twilight Princess*. The third *Zelda* game is as tightly woven into the legacy of the series as any of the other major entries.

Ultimately, *The Legend Of Zelda: A Link To The Past* is one of those extremely rare games that not only achieved critical and commercial success at the time of its release, but has stood the test of time and continues to attract new fans today. How does the team feel about this sustained success? "We're truly thankful, and consider it a great privilege," Tezuka says, but he's careful not to rest on his laurels. "At the same time, it also drives us to create new games that will surpass this acclaim."

» Soldiers take pig form in the Dark World, and you won't see any other humans.

» Climbing the mountain to Hera Tower is dangerous, thanks to a constant rain of rocks.

I AM ERROR...

The story behind one of gaming's most infamous secrets...

Back in the early Nineties, we can't imagine many American kids turning down the chance to get their name featured in a NES game. With that in mind, a contest ran in *Nintendo Power* during 1990, allowing the winner to win just that prize. The eventual winner was a chap named Chris Houlihan, whose name was eventually incorporated into not a NES game, but a SNES game – *The Legend Of Zelda: A Link To The Past*.

Of course, there was a catch. There's every chance that you might have missed that young Nintendo fan's crowning moment of glory, as Chris Houlihan's secret room only appears as an error handling measure – if the game can't determine Link's next destination, he ends up in this Rupee-filled room and exits to his own house. Plus, if you played the game in any language other than English, Chris Houlihan's name is nowhere to be seen!

MOTHULA

■ Not only does Mothula move erratically around the stage, it fights you in a room with moving floors. If you're struggling to get close enough for the sword to hit, blast it from afar with the Fire Rod.

BLIND THE THIEF

■ This photosensitive thief disguises himself as a maiden before revealing his true formidable form. There's no clever strategy here – hit him with the sword and avoid his floating heads and projectiles.

KHOLDSTARE

■ There's a frosty atmosphere in this boss fight, and Link will slide around easily. Melt its icy shield with a fire attack (the Bombos Medallion works well), before finishing it with the sword or Fire Rod.

VITREOUS

■ The slime that this gaggle of eyeballs lives in is both disgusting and deadly to touch! Slice down each smaller eyeball as it launches itself at you, before taking out the biggest one from afar with the bow.

TRINEXX

■ Three heads are deadlier than one, as far as this boss is concerned. Stun the red head with the Ice Rod and the blue head with the Fire Rod before attacking, then finish Trinexx off by hitting the glowing orb.

GANON

■ The biggest of big bads, Ganon is the swine behind this whole evil scheme. To finish him off, make sure the room is brightly lit, hit him with the sword to stun him and shoot him with a silver arrow.

THE WORLD

Here's a look at the key locations Link will visit as he becomes a hero in the Light World...

LOST WOODS

■ This is where you'll find the Master Sword, truly awakening Link as a hero. But you'll need three pendants to claim it...

HYRULE CASTLE

■ This is where Princess Zelda is being held at the beginning of the game, and where you'll later fight Agahnim. The boomerang can be found here, too.

KAKARIKO VILLAGE

■ Most of the residents of the town here are terrified of Link, and some will summon guards to attack him. You can grab a bug-catching net here.

DESERT PALACE

■ The power glove here is key to lifting heavy rocks, which you'll need to do to claim the second pendant.

HERA TOWER

■ Atop the mountain, this fortress guards the final pendant you'll need to obtain the Master Sword. You'll need the Moon Pearl located here, too.

ZORA'S DOMAIN

■ Make sure to bring some cash with you here, as you'll be able to pick up some useful flippers that allow Link to swim.

EASTERN PALACE

■ You can grab the all-important bow here, as well as collecting your first pendant. You'll have to fight for it, though!

SAGE'S HIDEOUT

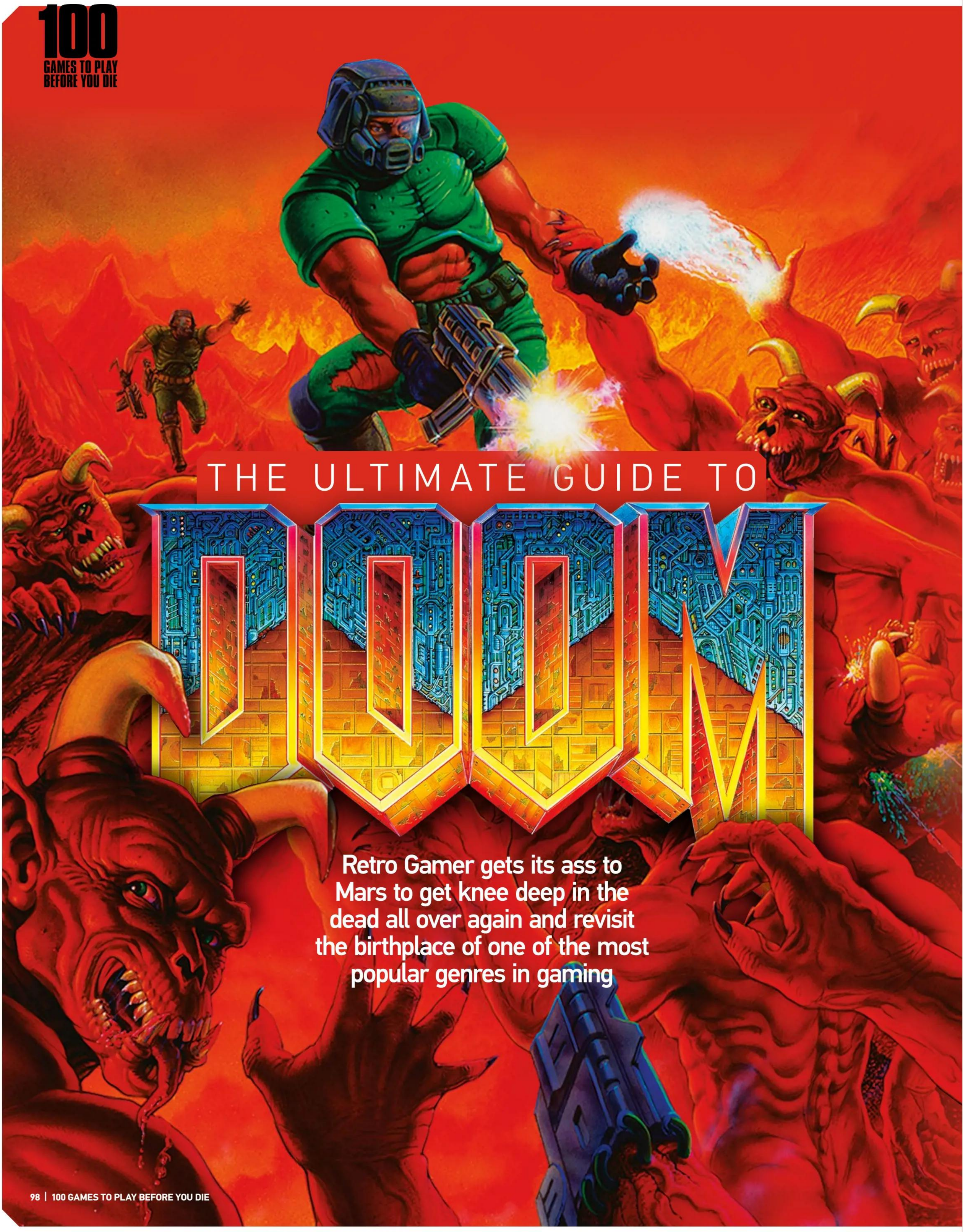
■ The man who'll set Link on his path to heroism is taking refuge from the forces of evil here, and is holding onto the Pegasus Boots for you.

LINK'S HOUSE

■ This is where you'll start your quest, and where you'll often resume it. You can pick up the lantern here at the very start of the game, too.

LAKE HYLIA SECRET CAVE

■ This remote cave holds a particularly useful item, the Ice Rod – it's worth the big detour to claim it as soon as possible.



THE ULTIMATE GUIDE TO DOOM

Retro Gamer gets its ass to Mars to get knee deep in the dead all over again and revisit the birthplace of one of the most popular genres in gaming

SHOOT FIRST, ASK QUESTIONS LATER

We discuss the origins, evolution and impact of Doom with designer John Romero

While it'd be disingenuous to say that *Doom* was one of the earliest pathfinders in the field of first-person perspective gaming, pretending that it wasn't largely responsible for popularising the model and guiding it into the mainstream would be just as misleading, if not more so. As is well documented, the origins of first-person gaming can be traced way back to the early Seventies, with *Maze War* and *Spasim* two commonly cited early examples before cockpit view arcade release like *Battlezone* stepped up the immersion another few levels.

Fast forward to the early Nineties and id was already hard at work on the tech that would one day lead to its hellishly influential shooter. 1991 saw id release *Catacomb 3D*, the true progenitor of the FPS genre. It had 3D mazes to explore, enemies to blast from the character's viewpoint, and you could even see 'your own' hands while attacking with the various spells available. id was onto something special, and the following year made the logical leap to refine the format further and throw firearms into the mix with *Wolfenstein 3D* – the most important stepping stone on its way to eventually defining the genre forever with *Doom*. *Wolfenstein* built on the same ray tracing tech used in *Catacomb* (whereby the game would only render what the player can see rather than everything around them in 3D space, thus greatly improving performance) and featured more advanced level design and enemy encounters, with the game shocking many due the violent acts seen to be committed directly by the player from their own viewpoint. But those precious souls hadn't seen anything yet.

» Each weapon, except the pistol, is great fun to use – delivering a rocket into a hellspawn's face is particularly satisfying.

How much did *Doom* change from initial plan to final product? Were there any notable features that you were unable to implement?

Doom changed a lot during development because we were creating a new technology with new gameplay. We had an initial idea of what we wanted to make, but had no idea what it would look like. Development was a process of new things happening every day. The feature we didn't implement was having one large seamless world that streamed in. That was a bit too much for DOS back in those days.

What kinds of technical challenges did you face with the hardware of the time?

The technical challenges were visualising a world no one had seen before with light levels, heights and a fully textured environment all at high speed. Additionally, the environment was a challenge because no game looked like *Doom*. There were no examples available, so we had to invent the abstract level design style to create exciting places for the player to inhabit. Doing all of this at high speed required 80x86 assembly language as well as more memory (over 640k) which required a DOS Extender, a new technology at the time.

What is your fondest (or indeed least fond) memory of working on the game?

Creating levels; coming up with new ideas for things I wanted in my levels, then coding those into the engine, then putting them in the editor for me and Sandy [Petersen] to use; playing Sandy's levels for the first time and experiencing what others would at launch; getting deathmatch working and seeing what a world-changer it would be.

At what point in the project did allowing modding and customisation via WADs become a factor? Were you surprised by the immense popularity of this functionality?

Allowing modding was designed into the game on day one. We knew it would be popular because people did very difficult things to mod our previous game, *Wolfenstein 3D*. So, we made it easy for them to mod *Doom*.

How heavily involved were you and the team with the various ports of the game? Were there any in particular that impressed or disappointed you?

We did the entire Atari Jaguar port ourselves. We consulted with Sega on the 32X port. We were surprised when the SNES port showed up in the mail – we didn't think the SNES could do that, but then Sculptured Software did it on their own. Very impressive!

What was your reaction to seeing so many subsequent FPS releases described as '*Doom* clones'?

I was really happy to see other shooters back then as there were just *Wolfenstein* clones, and I wanted better games. Some of my favourite *Doom* clones were *Heretic*, *Hexen*, *Dark Forces*, *Blood*, *Duke Nukem*, and *Outlaws*.

How important do you feel the shareware release model was to the success of the game?

The shareware model was incredibly important for spreading *Doom* everywhere. We even encouraged retail sellers to put the game on disks and sell them in computer stores, which they did. Back then, you could go into a store and see about ten different boxes with shareware *Doom* inside.

Finally, what do you think the modern FPS scene would look like had it not been for the huge influence of *Doom* on the games that followed?

They would most likely have started out slowly with 3D tech that taxed your CPU, like *Ultima Underworld*. The first wave of tech would have been improvements on *Wolfenstein 3D*, adding slopes and lighting. At some point, someone would use *Descent*'s engine and have your player running around shooting. Just a prediction.

» The summary at the end of each level shows how well you've explored the area.

The lessons learned from *Wolfenstein* and those other earlier project continued to pay off as id worked on a new engine that could offer changes in vertical height in levels, full texture mapping to surfaces, dynamic moving objects, variable lighting and much more besides. After much toing and froing over the direction the game should take, John Carmack's vision of a simple action game (rather than the more elaborate and even more ambitious ideas set out by others) won out and the game soon blasted onto the scene with a title punchy enough to make everyone sit up and take notice, and the technical chops to back up its swagger. *Doom* was born.

Those technical engine changes made *Doom* instantly feel like a generational leap over the likes of *Wolfenstein* and other early first-person titles – this was a fully immersive game world painted in glorious gunmetal and striking Martian reds from corner to corner, from ceiling to floor. A shredding metal soundtrack, worlds away from the innocuous MIDI bleeps and bloops of *Wolfenstein*, hammered home the intensity of the game, of racing around destroying demons with heavy weaponry against grotesque and glorious backdrops that could easily pass for heavy metal album sleeves. Not only that, but the world itself felt more alive and more real than anything similar that had come before, with changes in escalation, denser enemy populations (and interactions between them) and even changes in lighting from area to area.

The impact of that last feature can't be overstated, as *Doom*'s use of lighting to build atmosphere and tension in key areas was groundbreaking. Flickering neons in dark corners create a sense of foreboding and dread never before seen in a videogame, and flipping

» It takes some serious guts – or a lack of ammunition – to make you want to punch an enemy in the face in *Doom*.

a switch only to be plunged into darkness then slowly turning around as you realise you're probably not alone in the room speaks volumes of *Doom*'s pioneering work in the field of interactive horror. The team's *Alien* influence might as well burst right out of the games chest during intense moments such as these.

Fortunately, id wasn't shy in letting players loose with the toys they'd need to fight back against the creatures that lurk in the dark. *Doom*'s sci-fi setting gave it creative license to expand on *Wolfenstein*'s arsenal, with futuristic weapons like the room-clearing BFG9000 at the one end of both the tech spectrum and weapon bar, and the visceral flesh-tearing chainsaw representing the game's brutal and primal horror roots at the opposite end. Aside from the starting pistol (which is soon obsoleted by the Chaingun anyway, as it uses the same ammo), every weapon is satisfying to use in its own way. Even the punch attack gets a chance to shine when you grab a Berserk power-up, holstering your firearm as red mist clouds your vision and superpowering your left hook to let you drop Hell's finest in just a couple of blows.

RIP AND TEAR

Essential armaments for dealing with unwanted demonic plagues

▲ FISTS

■ Firearms are typically the preferred tool for engaging demons. Should your ammo reserves fail you, you could always try smacking them around a bit. But yeah, good luck with that...

▼ PISTOL

■ This basic gun might not pack much of a punch against tougher demons, but falling back on your sidearm to dispatch grunts helps save more valuable ammo for when you need it most.

▲ SHOTGUN

■ Yeah! Now we're talking. Arguably *Doom*'s most iconic weapon and one that doesn't stop feeling powerful until the armies of Hell start to roll out their toughest champions.

▼ CHAINSAW

■ Why are there chainsaws on a planet with no trees and where all the structures are built of metal and stone? Eh, who cares – rev that bad boy up and get barbaric!

▲ CHAINGUN

■ Put all of that spare pistol ammo to much better use with this bullet hose of an alternative. Trust us, it's a lot more effective than that little pea shooter you start off with.

▼ ROCKET LAUNCHER

■ Why waste time shooting at something when you can just blow it up outright? When you want to leave no evidence (except for quite a lot of blood), explosives are where it's at.

▲ PLASMA CANNON

■ Melt your foes with streams of raw energy with this magic future gun that's probably powered by science in some way. We don't really care *how* it works. We're just glad it does.

▼ BFG9000

■ Step 1: aim at room full of demons. Step 2: pull trigger. Step 3: wait. Step 4: cackle maniacally as everything around you evaporates. Step 5: repeat as necessary.

CONVERSION CAPERS

Where hell invades most home systems

MS-DOS

■ The original version of any game is hard to top. In the case of *Doom* – where there are decades' worth of custom mods and levels in the wild to add almost unlimited replay value – it's not just hard. It's straight-up impossible.

SNES

■ It's a minor miracle (read: clever SuperFX trickery) that Nintendo's 16-bit machine can even run *Doom* at all. Visual fidelity, framerate and sprite work take a hit, but it still manages to arrive *almost* feature and content complete...

SEGA SATURN

■ Although based on the PlayStation version's content-rich offering, this port falls down in the same area as many others – performance. Framerate, lighting and animation are noticeably inferior you'd do well to pick up the Sony version instead.

SEGA 32X

■ Between a soundtrack seemingly sampled from *Labyrinth*'s Bog Of Eternal Stench and the fact that it only features (most of) the first two episodes, this isn't the most faithful of ports, although it performs adequately.

PLAYSTATION

■ Rather than a straight port, PlayStation got an odd mixtape of most of the original levels and a bunch of others, including most of *Doom II*. It was well received and runs just fine, even adding a little of its own visual pizazz in places.

RISC OS/ACORN ARCHIMEDES

■ It arrived some five years after the game launched, but this version is one of only a few that can run smoother and at a higher resolution than the original. Well, on the right hardware, at least...

XBOX 360

■ The XBLA release of *Doom* is, like its predecessor, a fantastic port, this time made even better by the addition of online multiplayer. It's also now backwardly compatible on Xbox One, should you want to rip and tear today.

ATARI JAGUAR

■ Despite being one of the few console ports at the time to offer a full-screen display, sacrifices had to be made to pull this feat off – this version lacks the killer soundtrack, only featuring limited menu and intermission music.

3DO

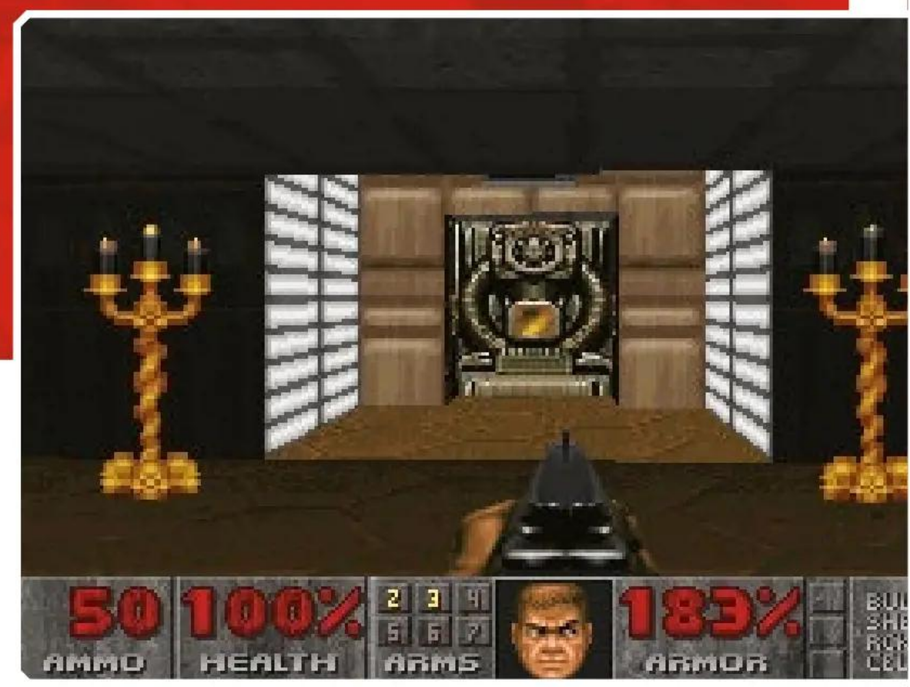
■ With performance that struggles even when windowed, the most dangerous enemies sadly absent, and a bizarre slowed-down rerecording of the great soundtrack, this is considered one of *Doom*'s weakest ports with good reason.

GAME BOY ADVANCE

■ *Doom* making its handheld debut was a big deal at the time. It's based on the Jaguar version but heavily censored, because Nintendo. Looks great on that little screen, though, and runs pretty well all things considered, too.

IOS

■ If you've ever wanted to play *Doom* with touch controls, you're a buffoon. The hardware's up to the task but the floaty controls just feel all wrong. Not that it matters anyway – it's never likely to be updated to be compatible with iOS11 now.



» Despite being set on Mars, there's a certain element of Gothic design in *Doom*'s visual style.

But of course, as your own arsenal grows more powerful, so do the minions of the darkness. *Doom* manages to do an awful lot with a relatively limited pool of enemies, each level ramping up the pace and escalating challenge as you edge closer to the exit. It has to do this by design, since death at any point flings you back to the start of the map and strips you of all your weapons and ammo. You're back to square one and suddenly, those early rooms packed with zombies and Imps that you melted with hot laser death first time around don't seem quite so easy. Later levels mitigate this a little by placing a decent weapon upgrade near the start, but it's usually something a rung or two below what you could have had at that point if you'd managed to stay in one piece – a cruel but crucial risk/reward mechanic there to make sure you respect every encounter and never let yourself get too swept up in the frenzied pace of the action.

D*oom*'s masterful game design wasn't the only factor behinds its wild success, though – id had a few more tricks up its sleeve, both built on similar ground to techniques employed in taking *Wolfenstein 3D* to market. The shareware release of the game was the most widely influential of the two, giving away the game's entire first episode, Knee Deep In The Dead, and encouraging fans to share it with friends and colleagues and buy unlock keys to upgrade to the full game if they liked what they saw. This led to *Doom* going viral years before going viral was even a thing, with the hot new game finding its way onto machines in IT labs, universities and offices around the world. This model had worked pretty well for *Wolfenstein*, but *Doom* took it to the next level, the game such a step forward that everyone wanted a piece of it, and it was perfectly timed to catch the rise of home internet availability while still able to be shared, traded and even copied as before. For once, copying that floppy was something we were actively encouraged to do.

Id's second masterstroke was to identify the popularity of modding around *Wolfenstein* and to build *Doom* with this in mind. With more widespread availability and awareness (and again, greater ease of sharing as the internet rose in prominence) came even more love for this aspect of the game, with thousands of maps, mods, conversions and much more besides flooding online message boards and FTP sites, and otherwise exchanged between avid *Doom* fans. This embracing of user-generated content also had the knock-on effect of kickstarting the speedrunning scene as we know it, with skilled players using in-game command line tools to record and compare demos of their fastest runs. This functionality was pretty heavily buried in *Doom* but evolved in subsequent id games and culminated with *Quake*, released even further into the internet boom and spawning dedicated speedrun sites that are still running to this day.

Doom didn't just cement the framework of the solo first-person shooter – it established the entire package, with its entertaining deathmatch multiplayer mode quickly becoming a LAN hit and later evolving into one of the first examples of the genre where online play was possible. Truly one of the most important and influential games of all time, *Doom* is the keystone that supports the weight of the entire FPS genre as we know it, and an alternate timeline where it never happened – or where it did but in some completely different form where perhaps you *could* talk to the onsters – would make for fascinating viewing. It's impossible to know how different things would be without the influence of this nigh-timeless classic, but we don't really *need* to know. All we need to know is that it *did* happen, that it was (and still is) truly magnificent, and that it's still ripping and tearing following a 2016 reboot that couldn't have been more in keeping with the original's tone and breakneck pace – which also prompted a follow-up: *Doom Eternal*. It's awesome to see *Doom*'s hellish legacy is still at 200 per cent health decades down the line.

PC-9801

■ The differences between western and eastern PC hardware weren't kind to *Doom*. Sound is weak, although it also struggles more in the performance department than the PC versions we got over here.

XBOX

■ Only available as part of the *Doom III* special edition, this port is exactly what you'd expect from newer hardware – a near-perfect copy of the PC original, albeit lacking the potential for user-made maps and mods.

PLAYSTATION 3

■ Available either as part of *Doom 3 BFG Edition* or via the *Doom Classic Complete* bundle on PSN, these versions are, predictably, extremely faithful to the original. Amazing what 2006 hardware can do with a 1993 game...

SUPER MARIO 64

How do you follow up arguably the best 2D platform game of all time? Nintendo's answer was to provide the defining example of a 3D platform game at its very first attempt...

Perfect Polygons

Thwomp

Amp

Mr I

Bub

Fly Guy

Bob-omb

Swooper

Piranha Plant

Spindrift

Spindel

Koopa Trooper

Ukiki

Chuckya

Snufit

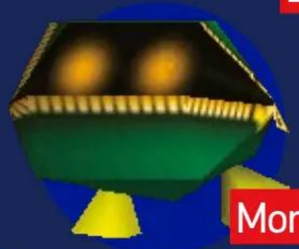
Boo

Spiny

Mr Blzzard

Amp

Pokey


Moneybags

Bullet Bill

Goomba

How do you introduce a brand new concept but still retain your identity and heritage? It's a tricky thing to do, and a task that has tripped up countless games developers over the years. But for Nintendo the formula has always been simple – take an old property, find a way to update it with new technology, and reintroduce it to the market. The Nintendo 64's 3D games were most definitely a brand new concept, and Nintendo's ace Mario was the man for the job.

Of course, it's weird to think of *Super Mario Bros* as an "old" series, despite its longevity. The plumber's adventures have been ever-present for decades, after all. However, it was a series that slowed down ▶

Strange New Worlds

Your traveler's guide to the new locations Mario is visiting

Peach's Castle

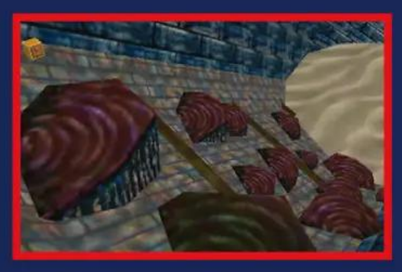
■ It might not be counted as a level in its own right, but the royal kidnap victim's homestead offers much to play around with and explore. Climb the trees, take a dip in the moat, or explore the basement – it's up to you what you choose to do here.

Bob-Omb Battlefield

■ This introductory stage is pretty gentle, in spite of the presence of the titular explosive enemies. Race against Koopa, avoid Chain Chomp and get your first experience with the cannon. When you're feeling bold, face King Bob-Omb.

Whomp's Fortress

■ Trickier platforming starts here, as you'll encounter narrow walkways and the nasty Piranha Plants. The big bad guy here is the Whomp King, who would be a rock hard opponent if he didn't highlight his weak spot with a bandage.



Jolly Roger Bay

■ Ships and sea life are the order of the day here. There are no bosses, but Unagi The Eel plays a big part in the second mission. Grab every coin as there are only 104 in the stage – you'll need almost all of them for the seventh star.

Cool Cool Mountain

■ Mario gets a warm reception from the penguins in this chilly stage. The cosy mountain lodge you start off next to hides a dangerous ice slide, which forms the basis of many star missions – you'll race on it and even hunt red coins on it.

Big Boo's Haunt

■ Mario's ghostly persecutors are back, and once they take over the castle's courtyard you'll be able to visit their spooky home. Like with *Super Mario World*'s Ghost House stages, puzzling is the order of the day here.

Hazy Maze Cave

■ This subterranean stage is filled with the worst kinds of nasties – Monty Moles, Snufits and Swoopers. This is also where you'll first encounter the Metal Cap, an item that turns Mario into a shinier, heavier version of his usual self.

Lethal Lava Land

■ Bowser gets to show off his inner egomaniac here, as he's made a gigantic sliding puzzle featuring his own image. Of course, he's done this in an environment where he feels at home, which means you should expect hot lava.

Shifting Sand Land

■ This dusty desert features everything you'd expect, including a pyramid and some hazardous twisters, as well as the Pokeys that seem to inhabit dry areas within the Mushroom Kingdom. As you might imagine, the pyramid is central to many of this world's stars.

Dire Dire Docks

■ This area contains the pride of Bowser's naval fleet, an enormous submarine! Who knew he even had a naval fleet in the first place? You need to visit this stage to fight Bowser a second time, but it's worth it to meet one of the game's most memorable companions.

Snow Man's Land

■ This freezing stage is even colder than Cool Cool Mountain, and you'll find more penguins here. Less friendly are the Mr Blizzards and the icy Bully. There's a lovely igloo here, but our favourite bit of the level involves riding a Koopa shell to grab red coins.

Wet-Dry World

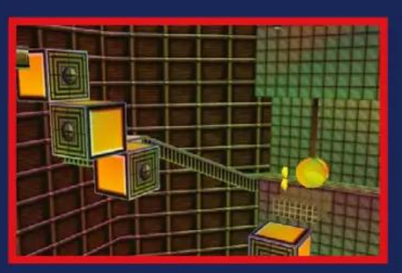
■ If it seems like the water level is never consistent in Wet-Dry World, watch where you jump into the level's painting – the higher you go, the higher the water. There's a neat town area here that seems to have been abandoned to the floods.

Tall Tall Mountain

■ As the name suggests, this rocky course is a hefty beast to scale, and you'll need to do so for your first star. At the lower levels, you'll encounter big mushrooms, and one of the stars involves relying on a primate to lead the way. Good job he's not from the Kong family!

Tiny-Huge Island

■ Size matters in this stage, as our hero encounters two portraits to enter it. If he visits the small one, Mario will be comparatively enormous, but on the large island he'll be tormented by enormous Goombas. Both sizes of island are required to gain certain stars.



Tick Tock Clock

■ The trickiest timepiece of all time hosts some fiendish challenges, as well as pendulums of impressive scale. It's also the area that most clearly illustrates the difference between the game's two major versions – the DS version has been extensively reworked.

Rainbow Ride

■ Mario goes sky-high for the last of the game's regular stages, hopping between floating islands on magic carpets. You won't find a wing cap here, so Mario won't be doing any flying of his own.

» Lakitu follows you about with a trusty camera, showing you everything that happens in the game.

enormously after its initial hits. The original *Super Mario Bros* NES trilogy and the sublime *Super Mario World* for the SNES appeared in quick succession, but then Mario's platforming adventures came to a sudden stop. Our portly protagonist started his hit tour of other genres, and platform games were given over to the likes of Yoshi. By 1996, it would be fair to say that a proper Mario platform game had been long-awaited.

The problem that Nintendo had to solve was how to even present Mario in 3D. Shigeru Miyamoto had reportedly toyed with the idea of a Super FX-powered 3D platform game for the Super Nintendo NES, and decided against it. Later, during the development of the Nintendo 64 hardware, the team experimented with linear levels with an isometric-style camera position. In the end, Nintendo EAD decided to go with ambitious free-roaming 3D levels that the player could explore at will, with no defined end point and plenty of things to discover.

If that lack of a defined end point sounds like a huge break from *Mario* tradition, that's because it was. Even in *Super Mario World*, which wasn't a linear game, each level had a start point, an end point and a series of challenges to overcome along the way. In *Super Mario 64*, the nature of those challenges had to change significantly because of Mario's new-found freedom of movement. Even a Goomba was a threat in *Super Mario Bros* – at the very minimum, it forced a button press to jump onto or over it. In *Super Mario 64*, dealing with a Goomba would most often be a simple case of running around the problem.

As a result, traditional "reach the goal" platform gameplay was ▶

Magic Moments

Super Mario 64 was full of memorable bits – here are some of our favourites

Racing A Koopa

1 Your first taste of how differently *Super Mario 64* operates is likely to come when Koopa The Quick decides to chat with Mario, rather than simply wandering into him. He wants a race – and Mario loves to race.

Discovering Your First Secret Star

2 Wandering into an empty room, you find yourself jumping against the walls for the heck of it, only to discover a secret passage through a window to a slide racetrack. Wow! Even the hub world can help you progress...

Big Bad Bowser

3 You've faced him countless times before, but now Bowser is not only huge, he's got a positively evil expression on his face and it's much worse in 3D. You're locked in combat with him until he eats his own bombs a few times.

Tinkling The Ivories

4 Is it possible to be frightened by a *Mario* game? Not often, no. But this gave many players a fright. As you pass the piano in Big Boo's Haunt, all seems normal – right up until it grows teeth and starts chasing you.

A Ray Of Sunshine

5 The PlayStation had a manta ray tech demo, but the common question when it came to *Super Mario 64* was "Have you got to swim around with the manta ray yet?" It's clear why people raved.

Taking To The Sky

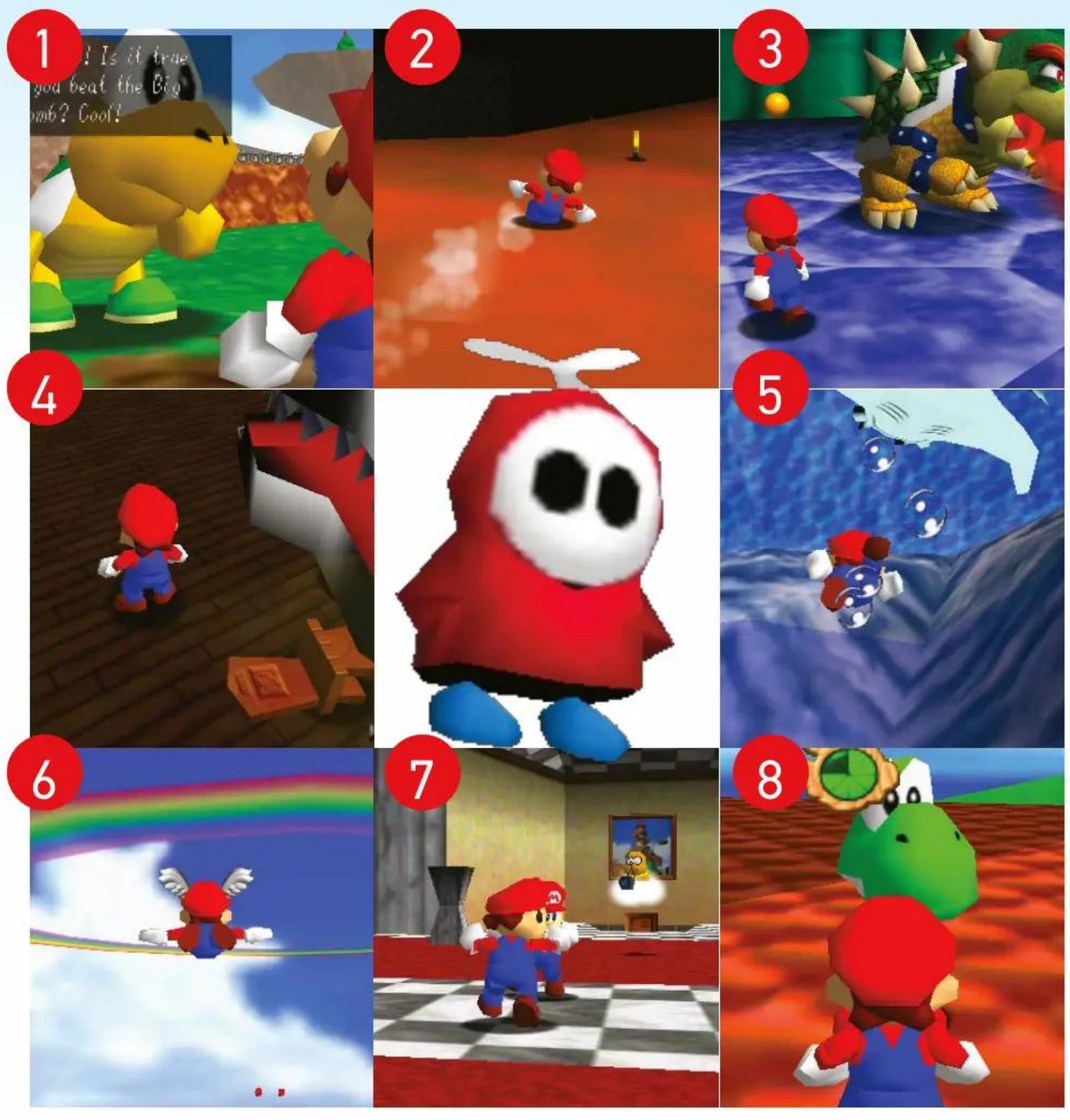
6 Mario has been airborne before in *Super Mario Bros 3* and *Super Mario World*, but the glory of full 3D flight is a different matter altogether. Thankfully you can experience it with the wing cap, which affords our hero flight.

Man In The Mirror

7 When you come across a mirror in the castle, take a gander at Mario. Not to admire his 'tache (though it is quite lovely), but to realise the attention to detail here – Lakitu's following Mario around with a camera, documenting everything.

A Familiar Friend

8 Once you've beaten *Super Mario 64* with all 120 stars, you might think that you've exhausted the game. But there's still one more thing left to do – scale the castle and visit Yoshi, who waited until you'd done all the work.



Reach For The Stars

Getting all 120 stars is no easy task – here's how to nab some of the trickier ones...

Metal-Head Mario Can Move!
Course: Hazy Maze Cave

■ As Metal Mario, you need to follow a brown path across the floor of the underground lake in order to avoid slipping off course. The trick here is to go quickly – you've only got a limited time as Metal Mario.

Stomp On The Thwomp
Course: Tick Tock Clock

■ There's a lot of tricky timed platforming to do before you reach the Thwomp of the title, and you don't need to attack it – you just need to hitch a ride on it in order to get the height needed to reach the star.

Big Boo's Balcony
Course: Big Boo's Haunt

■ Make your way to the third floor of the house in order to have a scrap with your foe, Big Boo. You can beat him by hitting him from behind. Then you need to make your way to the roof of the house to claim the star.

Wing Mario Over The Rainbow
Course: Peach's Castle

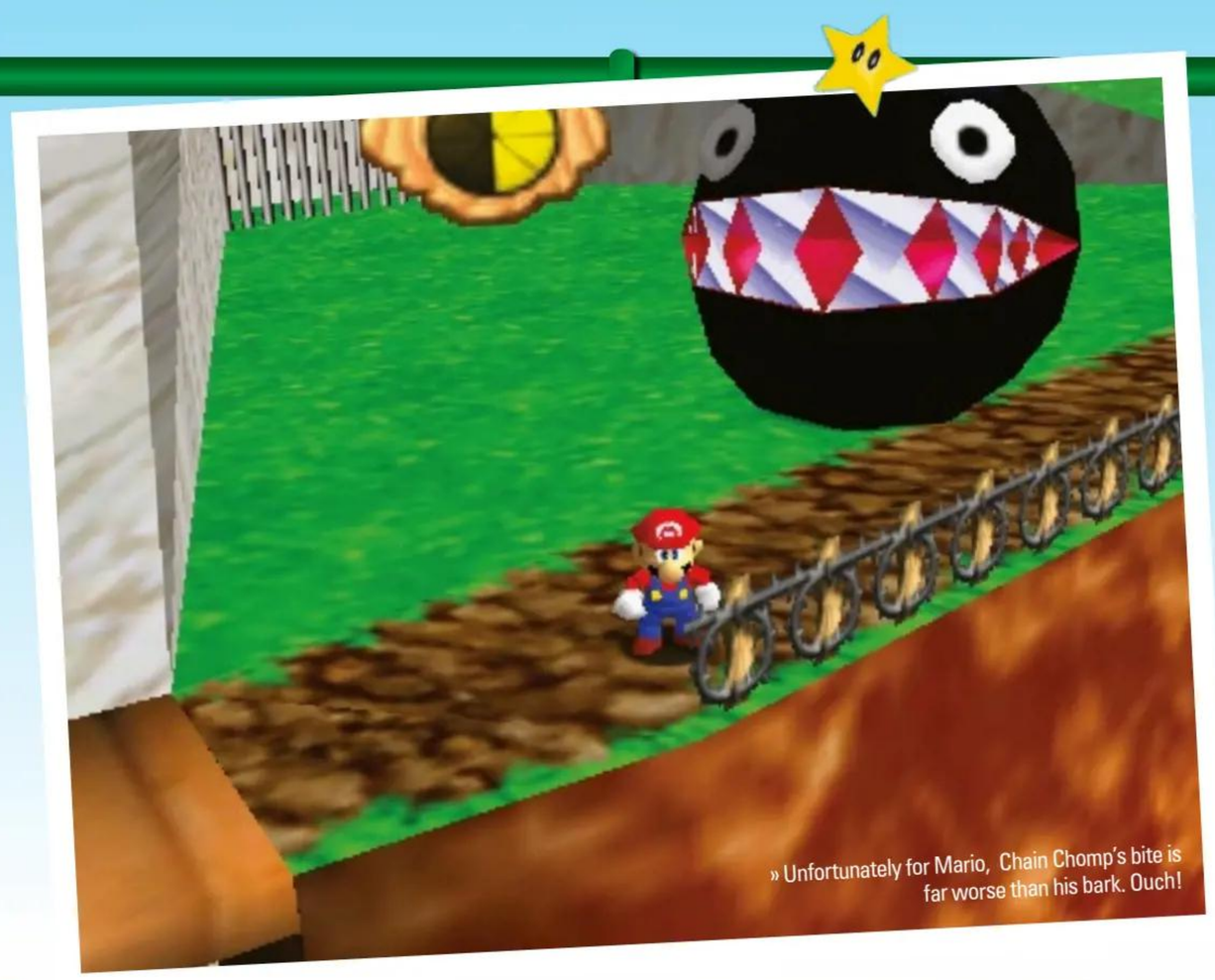
■ You need to work out a route – you've got access to cannons and the wing cap. Remember that Mario can fly straight through the transparent clouds, and stop off for new wing caps periodically.

100 Coins
Course: Rainbow Ride

■ 100 coins? That's a goal in every level, but it's a particularly nasty one in Rainbow Ride because death resets the counter, rendering all your progress pointless. The only advice for this one is to be very careful indeed...

Somewhere Over The Rainbow
Course: Rainbow Ride

■ Go find the Bob-Omb Buddy (he's in the coin maze, where you found the third star) and then get to the cannon on the airship. Now shoot towards the far-off platform – aim well or die!



» Unfortunately for Mario, Chain Chomp's bite is far worse than his bark. Ouch!

"Mario has a variety of new moves, from jump variations like the triple jump to his ground pound"

▶ decidedly out of the question. Instead, a system of multiple goals was included within the game – each of the game's worlds contained six Power Stars, gained by completing missions within the world. These had a variety of forms, from battles against mini-bosses to races and treasure hunts. Additionally, every world offered a bonus star for finding 100 coins. It was an innovative way to take advantage of the space afforded by the new 3D stages, but it also proved to be a necessity – with just eight megabytes of cartridge space to play with, the developers only had room to include 15 stages.

Much like the levels themselves, the order in which you tackled them was up to you – as long as you had enough Power Stars to hand. Even getting to those levels was a treat, as the maps of *Super Mario Bros 3* and *Super Mario World* gave way to Peach's Castle, the most interactive level selection menu in *Mario* history. Not only was the castle a nice sandbox area for Mario to run about, it had a variety of secrets of its own from a cool slide to a basement-dwelling rabbit called MIPS, and discovering them would earn you further stars. As you gathered stars, previously locked doors would open up and allow access to new stages.

» Congratulations, you've earned yourself a star. Only another 119 to go…

But for all of the amazing level design and innovative structure, *Super Mario 64* would have fallen flat if the game didn't have the same tight feeling as the 2D *Mario* games. Luckily, the joy of the game is in its movement. Mario has a variety of new moves, from jump variations like the triple jump and backflip to his ground pound, a move which sent our hero plummeting buttocks-first into the floor. Likewise, the physics worked beautifully – even watching Mario fail to make it up a steep slope is entertaining, as his little legs work overtime before giving out and leaving him to slide downhill on his belly. Crucially, every item – including Mario – has a fixed shadow beneath it, providing a helpful guide for players unused to controlling characters in a 3D space.

As you might expect of such a revolutionary game, *Super Mario 64* was the recipient of enormous acclaim from the press. The debut issue of *N64 Magazine* capped a 14 page review by telling readers that the game was "so far ahead of everything that comparisons seem meaningless," awarding it 96%. *Maximum*'s final issue declared it "an almost mind-expanding experience," and it was the first

Pyramid Puzzle
Course: Shifting Sand Land

■ It's a long and arduous trek for this star, as you need to find five very particular coins in this puzzling level. Two are on platforms near a sand duct, and the other three are located where the sand moves to the first floor.

Blast To The Lonely Mushroom
Course: Tall Tall Mountain

■ This one's a real pain to obtain – there are lots of ways you can do it, but we feel the best is to find the portal in the mushroom clump, get to the cannon and shoot your way to victory.

Can The Eel Come Out To Play?
Course: Jolly Roger Bay

■ Hang around Unagi's hidey-hole to lure him out, then catch the star on his tail. The key is timing – if you don't move as soon as he does, you'll likely need to surface for air.

Elevator Tour In The Volcano
Course: Lethal Lava Land

■ Tricky platforming is the order of the day. Get into the volcano, then prepare for precision platforming – you'll need to recognise when the checkered platforms are about to drop into the lava.

game ever to receive a maximum score of ten from *Edge*. If there was a single blotch on the otherwise spotless record of universal acclaim that *Super Mario 64* received in its day, it was that the camera system was not quite perfect. That didn't matter a jot as the game was an absolutely enormous hit, selling 11.62 million copies – or to put it another way, it was bought by over a third of N64 owners.

In fact, the only problem for Nintendo was topping it. *Super Mario 64* ended up being the best-selling game for the N64, as a sequel spent years in the works but ultimately never made it into full development. The eventual Gamecube sequel *Super Mario Sunshine* was a great game in its own right, but not the revolutionary experience that its predecessor had been, and even the astonishingly creative *Super Mario Galaxy* borrows much of its game design from Mario's first foray into 3D.

Beating *Super Mario 64* was a nice problem to have though, especially since everyone else was playing catch-up.

Developers around the world aren't shy about admitting that the vast majority of 3D videogames from the time owe something to *Super Mario 64*, whether they drew inspiration from its mission-based structure, Mario's movement, the camera design or even the game's fun hub world. It's an astonishing accomplishment, especially for a launch game – a perfect demonstration of its hardware, a revolution in game design and a best-seller. Games like *Super Mario 64* don't come along every day, or even a generation. *Super Mario 64* might well be the kind of forward jump for videogames that comes along once in a lifetime.

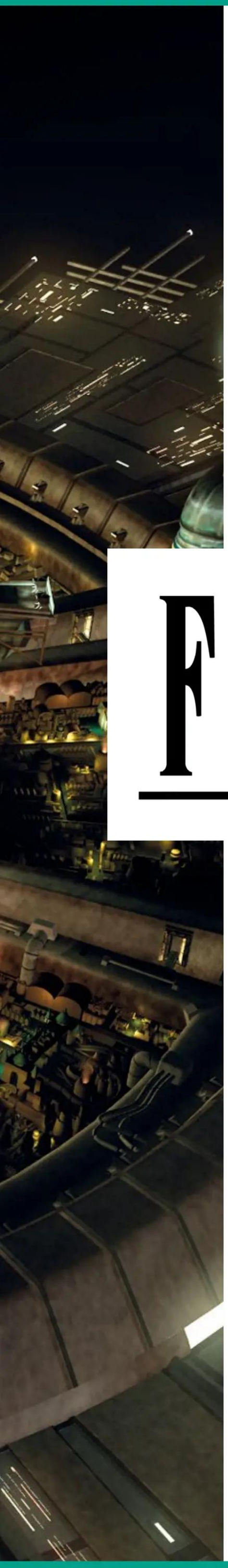
DS Excess

The story didn't end on the N64...

If you have a genre-defining 3D platform game under your belt from the debut of your 3D-capable home console, it seems almost silly to leave it lying dormant when you introduce 3D to another new market. Thus, Nintendo brought *Super Mario 64* to the Nintendo DS when the handheld system arrived in stores at the tail end of 2004. However, *Super Mario 64 DS* was far from a straightforward conversion – it actually ended up being an enhanced remake of sorts, with changes to quite a few aspects of the game.

The biggest addition was the inclusion of three new characters – Luigi, Wario and Yoshi, each with their own special attributes for jumping, power and speed. The game also includes new missions for a total of 150 Power Stars, up from 120 in the original, and some of the game's graphical elements have been updated for the new hardware.

Super Mario 64 DS wasn't critically successful as the original, in large part due to the digital controls players had to make do with, but it was a hit in sales terms. 11.06 million copies have been sold, putting it only slightly behind the N64 game.



THE MAKING OF FINAL FANTASY VII

In the mid-Nineties, Square's flagship franchise abandoned Nintendo's hardware and embraced the PlayStation, a move that would lead to Final Fantasy VII, an ambitious, refined and enormously influential RPG. Director Yoshinori Kitase and art director Yusuke Naora discuss the creation of this masterpiece with us in unprecedented depth. Steven Spielberg's Jaws fits into it somewhere, as Samuel Roberts discovers…

Without hyperbole, *Final Fantasy VII* is the RPG that changed the genre forever. Opening the Western floodgates to Japan's own style of role-playing and popularising the entire sub-genre, the 10-million-plus-selling game was, for many players, their introduction to the potential of interactive storytelling and the first videogame narrative to leave a mark on them. It's also divisive, anecdotally referred to as the most returned game of all time and often criticised by Western RPG veterans – yet such cynicism can't mask the impact it had upon release in 1997. Along with *Gran Turismo*, *Final Fantasy VII* shifted millions of PlayStation consoles by demonstrating the machine's capabilities, captivating gamers with a fictional universe of unrestrained scope and style that would govern an entire corner of the industry. Back when the game was being created, Square (today known as Square Enix) was a company in transition, and the influx of talent that brought *FFVII* into being, as well as a development culture that fostered creativity, was ultimately responsible for this deservedly celebrated RPG.

At the 1995 SIGGRAPH computer graphics convention in Los Angeles, the company formerly known as Square presented an interactive demo to the world that showcased its *Final Fantasy*

property in unprecedented fashion. This project depicted three characters from *Final Fantasy VI* fighting a Golem enemy in full 3D, a jaw-dropping contrast to the SNES-based 2D roots of the game, complete with visual effects and cinematic in-battle camera angles that implied a future beyond the static staging of the series' stories up until that point. When you look at the tech demo now, you can absolutely see the founding technical conceit of *Final Fantasy VII* embedded within it. Squaresoft saw that *Final Fantasy* could be so much more on a platform that allowed the company to experiment with such high-end technical ideas.

The SIGGRAPH project would form the 'seed', as producer and creator Hironobu Sakaguchi dubbed it on a promotional video for the game, of *Final Fantasy*'s move into the next console generation. To any seasoned gamer, the most well-known part of the development of *Final Fantasy VII* is the defection that started it all. Long considered a Nintendo stalwart since the original *Final Fantasy*'s release on the NES in 1987, Square shifted to the PlayStation for its CD-ROM capabilities over the N64's comparatively limited cartridges. This fit the grand ambitions of this new sequel.

"We were fans of Nintendo's hardware, although in order to use CG movies in the game like we intended, we needed a lot of storage space, and for that reason decided on a platform that used the higher-capacity CD media," director Yoshinori Kitase tells us.

How ironic that this franchise would soar on a Sony platform, given that Nintendo publicly broke away from a CD-enabled SNES collaboration with the electronics giant earlier in the decade. The emerging disc format enabled *Final Fantasy VII* to be far more cinematic than its forebears – an important factor, especially to Sakaguchi. Yet an interesting factor in all this was the set of technical influences on the team, many of whom were from Western game development, as Kitase explains to us: "We looked at trends in the foreign-made PC games of the time, such as *Alone In The Dark* and *Heart Of Darkness* [and so on], and made it our objective to combine together smooth action sequences using polygon-based characters and clever camera work with the insertion of effective CG movies at a high level. I believe that we pretty much achieved our goals in this regard."

When it came to setting and story, Final Fantasy VII would similarly be a departure from series convention. While the previous entry in the series had a pronounced steampunk theme, the set of environments in the seventh game would vary massively from continent to continent, from a vast, polluted metropolis to backwater towns;

DISTRACTIONS

The best of Final Fantasy VII's many extra tasks and mini-games

Chocobos

Catching them, riding them, racing them and breeding them – the Chocobo element of *FFVII* is a game in itself, and becomes bewilderingly complex when you're looking to breed that lucrative Gold Chocobo, which can reach parts of the map that even the Highwind cannot.

Battle on Fort Condor

Visiting Fort Condor triggers this intriguing little strategy offshoot, where you fund small skirmishes to hold back Shinra forces from the giant bird perched atop the fort. It's no *Age Of Empires*, but it shows how diverse the ideas are in *FFVII*.

Snowboarding

On the second disc, Cloud gets the opportunity to snowboard down a mountain. Later in the game, it re-emerges as a tricky arcade game at Gold Saucer's Wonder Square. This mini-game was popular enough to justify a mobile spin-off, which is naturally only available in Japan.

Motorcycle chase

One of the nicest surprises early on is an action-based mini-game where you have to protect your comrades from Shinra soldiers on bikes by ramming them off the road with Cloud's inexplicably large Buster Sword. It's great fun.

First-person shooting

Visiting the 'Speed' part of Gold Saucer triggers this bizarre but quite impressive first-person shooter section, where hitting a high score lands you a prize. This is notable for its kaleidoscopic visuals, in stark contrast to much of the game.

Battle arena

The only way to get Cloud's Omnislash Limit Break outside of the finale, and a clever means of extending the combat's appeal, the battle arena on Gold Saucer is a relentless challenge where you have to survive successive rounds of enemies and status ailments.

FINAL FANTASY VII'S UNSUNG HERO

Kitase weighs in on the oddly high popularity of Zack Fair, Cloud's former mentor

As you may recall, the entire flashback sequence where Cloud remembers the events in Nibelheim that led to Sephiroth's transformation into a twisted enemy turns out to be a bit different. Later, we learn that Cloud confused himself with Zack, his superior in the army. Ever since then, Zack has remained a popular figure among *Final Fantasy* fans, which led to the spin-off *Crisis Core*. His role in Cloud's story makes him a unique element in *FFVII*'s tangled web.

"Zack is the vessel onto which Cloud twistedly projects his complexes towards SOLDIER [Shinra's elite fighting force]," Kitase tells us. "He was created by the scenario writer, [Kazushige Nojima], as he was trying to build up the mystery surrounding Cloud's past, and we did not originally think of Zack as a major character, but he seemed to be strangely popular with the fans. Much later on, Zack featured heavily in *Crisis Core*, and Mr Nojima was in charge of the scenario for both titles. When he first created Zack, I doubt that he could possibly have thought that we would be delving into the same character's story ten years on!"

» Even though players could avoid him entirely, Vincent earned his own cult reputation.

that clash of futuristic technology against these remnants of a beautiful old world.

We asked Kitase to discuss the inspirations for the planet's creation, and he graciously passed our questions on to *FFVII*'s art director, Yusuke Naora. "Initially we wanted to try something new by having a corporation as the major enemy while still keeping the game broadly in the fantasy genre," he explains, referring to the Shinra Electric Power Company. "Having decided on this concept, we actively included many steampunk-like elements to try to merge the appeal of traditional high-fantasy 'brick-built' structures and sci-fi elements at a high level. However, as there was to be magic present in this world, it would have been hard to have cyberpunk-esque unknown future technology sitting comfortably with the other influences, so we tried to keep that aspect down as much as possible."

Naora continues: "On the design side, we were also very much inspired to mix in things from many different periods in a semi-chaotic manner, including things from our everyday lives such as the newer buildings in Tokyo, the streets of Ginza, and the Shibuya station building." All this led to a laudably diverse set of environments, which still felt like a cohesive part of the same world.

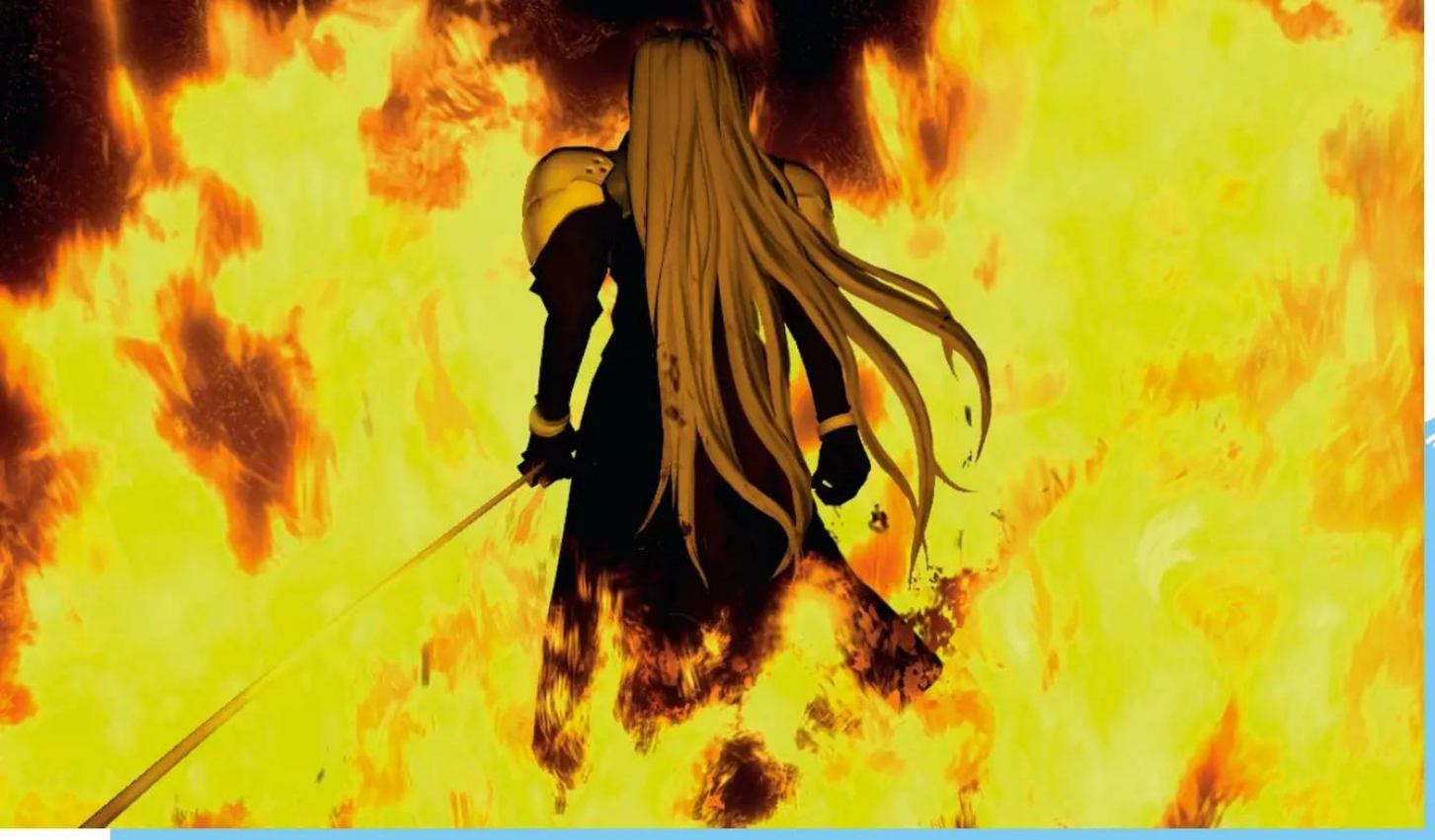
The setting was closely connected to the narrative – the backdrop of *Final Fantasy VII*'s story is that the planet is suffering, being mined of resources by the ruthless Shinra, which is also a prominent military force. Yet the central conflict of the story is actually smaller-scale than that. For the developers, it was more about the symbiotic struggle between the hero, Cloud, and the calculated villain, Sephiroth, that drove the game forwards, as Kitase explains: "Throughout the story I really wanted to depict Sephiroth as an overwhelmingly powerful threat. However, if you have a villain as an actual opponent who appears before the heroes then however strong or charismatic you make the character, he will still feel very much 'life-sized' and limited in scope, reduced to another minor evil."

What source of inspiration helped the team tackle this issue? You'd be surprised. Kitase continues: "To solve this problem, I decided to present Sephiroth indirectly, making the player aware of his existence through hints and stories but not having him show himself before them much. The player sees the aftermath of his ruthless deeds but does not arrive at the source of the evil for a long time. This was the same method used by Steven Spielberg in the film Jaws. Finding the butchered President Shinra on the top floor of the Shinra building and the impaled body of the Midgar Zolom are moments symbolic of this approach."

Players don't properly encounter Sephiroth until they're around ten hours in, and even then it's in fleeting glimpses – we see him prominently in flashbacks, leading to the discovery about his sad origins and subsequent breakdown. He, along with the attached musical theme, *One-Winged Angel*, would become iconic aspects of *FFVII* upon release. Cloud, the amnesiac hero trying to piece his distressing memories back together, was an equal point of fascination for players. It's this dynamic, with their subsequently explored history of bloodshed and trauma, that players hadn't seen before in *Final Fantasy*.

"We made it our objective to combine smooth action sequences with CG movies at a high level"

» *Final Fantasy VII*'s Materia system is so deep that it can eventually transform the entire rhythm of a battle, by letting you alter the conditions of it.



THE GREATEST MOMENTS OF FINAL FANTASY VII

Not featuring Cloud in a dress

That death...
You knew it would be this – shocking, sad and brilliant on the part of the Squaresoft team, a certain character is murdered by Sephiroth at the climax of the game's first act. It's notable because it is so brutal, but this brave move to take the character out of the story meant *Final Fantasy VII* would be forever remembered by players.

Omnislash
The entire game builds to this final conflict between Cloud and Sephiroth, where the hero slices down the grey-haired villain in spectacular fashion, using his final Limit Break, Omnislash. All right, so it isn't necessarily the first time you use Omnislash, but it's still a thrilling component of the game's conclusion.

The Weapons emerge out of the crater
Sephiroth unleashes Weapons on the planet, giant boss-style creatures that, when put together, look like something out of a Japanese monster movie. The idea of the optional super-boss is a *Final Fantasy* staple – here, they're made a key turning point in the story, in another example of Square's pioneering FMVs.

500 years later...
After the credits, we're treated to this brilliant but somehow chilling scene, 500 years into the future. We see Nanaki and his children running through a canyon, before emerging onto a vista that shows an abandoned Midgar, overgrown and free of the technology that drained the life of the planet.

The President is dead
When Kitase alludes to *Jaws*, he's referring to this scene where the player reaches the top of Shinra Headquarters and finds the President dead, impaled by Sephiroth's katana. It's a brilliant way to bring the villain into the story, having him lurk just out of reach.

Summoning Knights of the Round
Knights of the Round was easily the most lavish summon spell in the entire series up until that point. The animation for the attack, Ultimate End, sees 13 knights battering the enemy with a slew of extraordinarily powerful moves; a just reward for the exhausting process of breeding a Gold Chocobo to get it.

Sephiroth walks into the flames
The highlight of the entire Nibelheim flashback, told from the village of Kalm early on in the story, is an eye-opening cinematic where Sephiroth turns away from Cloud into the flames, after the twisted warrior burns the town to the ground. Perhaps the most visually recognisable part of the game.

Zack and Cloud escape Nibelheim
In this flashback, the events of the Nibelheim incident are fully disclosed. We learn that Cloud borrowed Zack's identity, and that this member of SOLDIER was gunned down by Shinra outside Midgar. This sequence is made all the more sad when you've earlier encountered Zack's parents in the town of Gongaga, where both his mother and father are completely unaware of his tragic fate.

Emerald Weapon swims out of the darkness
Late into the third disc, heading into the ocean with the submarine gives the player a few surprises, including the final whereabouts of the Turks, Shinra's agents whose paths cross yours throughout. That's before you see bubbles emerge out of the black, though – when the fearsome Emerald Weapon drifts towards you in terrifying fashion. Brr! It's an absolute bitch to kill, too.

Getting the Highwind
Final Fantasy as a series is ingenious in the way it lets you manoeuvre around the world. When you get the Highwind, you can go almost anywhere in the entire world, a gloriously freeing reminder of the diversity of locations within the game.

☞ "Furthermore, however far the player pursues him, Sephiroth is always just out of reach, and because of this our image of him becomes more and more idolised and idealised," explains Kitase. "This story structure also overlaps with the reasons that Cloud has such a complex about his own troubled past, and I believe it is a very effective tool for showing the relationship between the two characters."

All the character designs and their personalities were left in the hands of the designers, a break from previous games, where Sakaguchi would oversee their conception. This was also the first project where Tetsuya Nomura would be the sole character designer, who, having contributed work to *Final Fantasy V* and *VI*, replaced Yoshitaka Amano from the previous titles. A *Famitsu* interview with Nomura (translated by Andriasang) explains that Cloud was essentially his creation, yet Kitase told us that determining both the looks and personalities of every one of *Final Fantasy VII*'s iconic cast of characters was "largely the responsibility of [Nomura]". It marked a sea change for the series. Gone were the primarily medieval, dreamy heroes of Amano, and in came a fresh, exciting array of heroes that would have an extensive impact on Japanese popular culture – not to mention birth a string of ideas that would be appropriated into character clichés, like spiky hair and giant swords. Amano would still contribute character sketches and the iconic meteor logo, however.

The immense back story for these heroes and villains was fine-tuned by scenario writer Kazushige Nojima, while many of the actual narrative ideas came from a unique exercise that once again showed Squaresoft's experimental approach. "When designing the game, we asked all staff on the *Final Fantasy* team to submit possible episode ideas for character back stories and created the overall stories by putting these together," says Kitase. "It was the scenario writer, Mr Nojima, who managed to put together a complete and detailed story from this massive pool of ideas, a process that was much like putting together a jigsaw puzzle."

This exercise led to an intriguing collection of stories across the cast of heroes, with one main plot driving it all: the planet's impending destruction at the hands of Sephiroth, where he would harness the world's natural defences – known as the Lifestream – for himself. The cast of *Final Fantasy VII*, including the tortured, unfocused Barret; last of an ancient race Aeris (or Aerith – a misspelling in the game's translation, as you probably know); and down-and-out pilot Cid Highwind; as well as more esoteric faces like the tomb-dwelling, optional companion Vincent Valentine, struck a chord with gamers, as their stories dovetailed skilfully with the main narrative.

These small tales, even Sephiroth's, traced back to the all-encompassing Shinra plot device – this corporation that is draining the planet of its resources. Given that *Final Fantasy VII* was made in the mid-Nineties, you could draw obvious parallels with the real-world environmental issues

at that time. Yet environmentalism, surprisingly, was not part of the team's storytelling agenda, as Kitase explains to us: "We did not particularly plan on bringing out environmental destruction as a major theme of the game but rather intended the story to depict the internal struggles of Cloud and Sephiroth.

"However, if pushed I would probably say that this theme was not so much that of concern over destruction of the environment but more about how we wanted to show how civilisation and the environment coexist. Cloud and his companions first appear in the game as a group trying to take down the Mako reactors, but in the end we see them getting help from the Lifestream that is the source of that energy, and going forward into a future of coexistence with the planet. I believe that this theme of how we can strike a balance and live in harmony with the environment is one that is shared by all of us."

The Lifestream is the literal embodiment of the planet's energy in Final Fantasy VII, a place that all life emerges from and where it returns to with the event of death. Its genesis came from Sakaguchi, who had come up with the idea as a reaction to tragic events in his own life. "When we were creating *Final Fantasy III*, my mother passed away," he said in a video to coincide with *FFVII*'s release. "And ever since, I have been thinking about the theme of life. Life exists in many things, and I was curious about what would happen if I attempted to examine life in a mathematical and logical way; maybe this was my approach in overcoming the grief I was experiencing."

» [Top left] Catching and breeding Chocobos is one of the true tests of *Final Fantasy VII.* » [Bottom right] *FFVII* is a high point for the series' stunning creatures, with Bahamut being a decent means of lazily dispatching enemies.

"Sephiroth is always just out of reach, and so our image of him becomes more and more idolised"

With that delicate balance in mind, an antagonistic force like Shinra seemed suitable – it also presented a fine opportunity to go against the curve of the last six games. "We had a feeling that ideas for villains in RPGs had kind of become stale and repetitive, with it always being something like a massive dragon or an evil ruler who had acquired an ancient power," says Kitase. "When we asked ourselves what a more modern take on a powerful evil would be, we came up with the idea of a corporation that pollutes the environment for excessive profit."

The most talked-about moment in this complex tale, though, would be the death o**f a major character.** One of the conditions of running our exclusive interview from Square Enix was that we wouldn't reveal this character's name – but you know which one we're talking about. Everyone knows it. You might have spent hours training this character up before the event occurred.

Randy Pitchford
CEO, Gearbox Software

"**Obviously, role-playing** games were a huge influence on *Borderlands*. *Final Fantasy* offered many of the standards and tropes that are borrowed by many role-playing games of today. The engagement and motivation that comes from levelling up and the draw of collecting loot first became clear to all of us when we did such things with pencil-and-paper games. While many PC games applied these principles, *Final Fantasy* managed to capture the design in a most accessible way at a time when our controllers had only a D-pad and two buttons. The elegance of the *Final Fantasy* approach to role-playing has inspired a generation.

In fact, the very first videogame that my wife and I played together from beginning to end was the first *Final Fantasy* game on the NES. To this day, we have fond memories of that experience and an irrational loyalty to the franchise. I know that many people see *Final Fantasy VII* as the high-water mark for the series, but for me it was the earlier *Final Fantasy* games on the NES and Super Nintendo that have had the most impact."

WHAT HAPPENS NEXT...

SEQUELS IN FINAL FANTASY

Final Fantasy X-2

Solid and technically superb but tonally misfiring, *Final Fantasy X-2* took *FFX*'s timid protagonist, Yuna, then popped on some hot pants and gave her a couple of guns. The game's 'Perfect' ending is almost worth playing through it alone for fans of the first game, though.

Final Fantasy IV: The After Years

Originally released on mobiles in Japan, then through WiiWare and again on the PSP with *Final Fantasy IV: The Complete Collection*, *The After Years* is a direct sequel that is built with the look of the original SNES title. The PSP version presents it in the most coherent, beautiful form.

Dissidia 012 [Duodecim] Final Fantasy

Forget the stupid title. Aside from the unfortunate shortage of new content, this sequel to the fan-service-packed original is a top-notch action RPG that was snubbed last year, no doubt affected by the PSP's atrocious piracy rates. Nevertheless, it comes packaged with the first game, so get it if you have the chance.

It didn't matter. This character was wiped out of the story. Such a brave decision would be the defining moment, and it stunned this new generation of JRPG fans, and is still the subject of much conversation today.

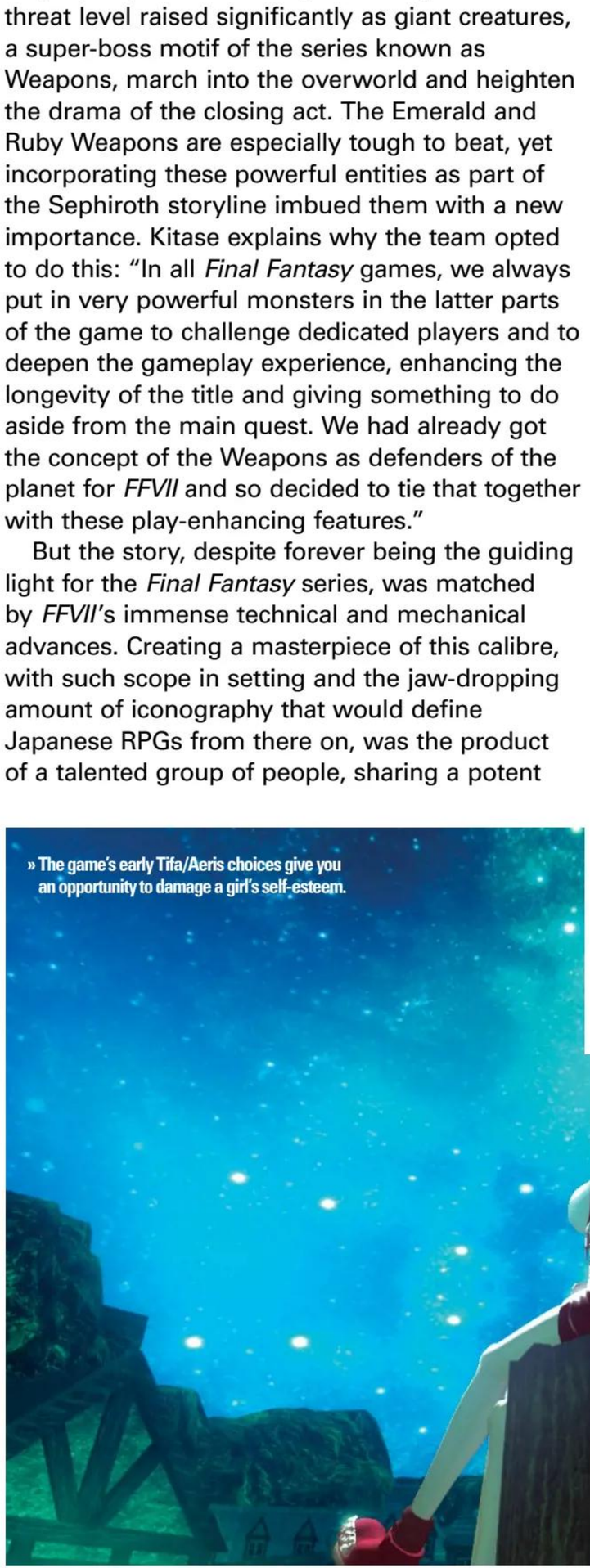
It is odd that Square Enix declined to comment on the sequence, having done so in the past – even Kitase himself, back in 2003. It could be that the company is hoping new gamers discover *Final Fantasy VII* through the PlayStation Store, or that something new involving the game is in the pipeline. Either way, that moment was designed by Square to create a sudden void in the player, to make them think they'd have acted differently were they to know it was coming.

"When thinking about a modern take on a powerful evil, we came up with the idea of a corporation"

There are more surprises besides, though. A major plot point some way into the game sees the threat level raised significantly as giant creatures, a super-boss motif of the series known as Weapons, march into the overworld and heighten the drama of the closing act. The Emerald and Ruby Weapons are especially tough to beat, yet incorporating these powerful entities as part of the Sephiroth storyline imbued them with a new importance. Kitase explains why the team opted to do this: "In all *Final Fantasy* games, we always put in very powerful monsters in the latter parts of the game to challenge dedicated players and to deepen the gameplay experience, enhancing the longevity of the title and giving something to do aside from the main quest. We had already got the concept of the Weapons as defenders of the planet for *FFVII* and so decided to tie that together with these play-enhancing features."

But the story, despite forever being the guiding light for the *Final Fantasy* series, was matched by *FFVII*'s immense technical and mechanical advances. Creating a masterpiece of this calibre, with such scope in setting and the jaw-dropping amount of iconography that would define Japanese RPGs from there on, was the product of a talented group of people, sharing a potent creative culture. We asked Kitase about the team's dynamic at the time.

"Before *FFVII* we only really had 2D pixel art designers, but for this project many 3D CG specialists and designers came in from outside the company, leading to an interaction of various working cultures that was very stimulating," he says. "All the in-house designers also started to learn to use CG tools, and we held a lot of seminars and explanation meetings. I personally received instruction in how to use Alias PowerAnimator, and around a tenth of all the character motions seen in the game's event scenes were actually created by me!"



» The game's early Tifa/Aeris choices give you an opportunity to damage a girl's self-esteem.

We had to ask Kitase if anything changed in development – and, as it happens, Square had a relatively airtight vision of *FFVII*, with only one change that fans will definitely have noticed. "The only thing that we had to change during development was the level of deformation on the characters. The fact that the characters are depicted at different levels of deformation in the field, battle and CG sections is a remnant of these changes." Whereas field characters ended up being blocky 3D models, the characters in battle had far more detail. As Kitase mentions, too, you can see this difference in CG movies – some depict the characters in blocky form, while others, like Sephiroth before the flames of Nibelheim, are more impressively realised. It's a curious inconsistency, but of course forgivable in the face of the finished product's other achievements.

The locations have aged better, thanks to the heavy use of prerendered backgrounds. Yet part of *Final Fantasy VII*'s appeal to long-time fans was the introduction of a fully 3D world map. Despite the cinematic touches present in other parts of the experience, the world map was seen as an updated version of the SNES overworld. "This part of the game was not actually all that much of a challenge," says Kitase. "It goes without saying that, at the time, creating data for a 3D map was hard work, but for better or worse we decided to do the map along pretty similar lines to a 2D world map from the *Final Fantasy* games of the Super Famicom era, so there were not a lot of problems with the overall vision."

THIS PLANET AS MY VESSEL

With insight from Final Fantasy VII's art director, Yusuke Naora, we pick out key locations from the story

DEVELOPER COMMENTARY

Forgotten Capital

"As this was to be the location for some of the most important scenes, it needed to be eerie, spiritual and made up from a more limited number of elements. In order to convey the idea of long dead civilisations, we used the motif of the fossilised prehistoric sea bed, with architecture based on giant shells."

The Northern Crater

Forgotten Capital

Wutai

Rocket Town

Corel

Nibelheim

Costa Del Sol

Midgar

Junon

Gold Saucer

Cosmo Canyon

Gongaga

DEVELOPER COMMENTARY

Midgar

"The overall silhouette of Midgar was inspired by looking at a pizza I was eating with friends while I was stuck for design ideas. For the Shinra building, the overall sense of scale came from looking up every day at our company offices and also had features taken from structures where practicality influences the design, such as the bridge of a battleship and industrial furnaces."

DEVELOPER COMMENTARY

Cosmo Canyon

"The concept of this area had been finalised as a valley and observatory like the Grand Canyon, so I had the designers put in more of a medieval feel, with fantasy elements such as the clockwork 'cosmic spheres' planetarium and the gyroscope compass."

DEVELOPER COMMENTARY

Gold Saucer

"As there were a lot of mini-games in the title, I set the question of, 'What would an amusement park in this world be like?' and made sure everyone had fun when designing this area."

☐ Junon
A port town that is also a military base, Junon is attacked later on by Sapphire Weapon, where the giant Junon cannon ceremoniously takes it down.

☐ The Northern Crater
This is where Jenova landed about 2,000 years before the start of the story – a creepy, expansive crater where the climax of the game takes place.

☐ Nibelheim
As more observant players will know, after Nibelheim was burnt down by Sephiroth, the entire town was rebuilt by Shinra and the citizens replaced with its employees in a cover-up.

☐ Costa Del Sol
An utterly bizarre, Spanish-style holiday town with a relaxed atmosphere, players could later buy an overpriced house in this pleasantly different part of the world map.

☐ Gongaga
This sad little town is the location of an exploded Mako reactor, with the citizens mourning their lost. Like a sister town of Nibelheim, in a strange way.

☐ Wutai
A more culturally differentiated locale to everywhere else, Wutai is the sole town on the far western continent, and marks the only location where the heroes team up with the Turks.

☐ Corel
Barret's hometown-turned-post-Shinra-wreck, this is where you can catch the lift to the far more jolly Gold Saucer. There's a ruddy superb chase sequence here later in the game, too.

☐ Rocket Town
Built around a launchpad, this is where one of the more interesting characters, foul-mouthed pilot Cid Highwind, hails from. It's a cheerful moment when they finally get the rocket into space.

» Aeris is the most innocent character in the story, and remains massively popular with fans.

Constantin Jupp
Assistant producer, Media Molecule

“***Final Fantasy VII*** made me realise that games were so much more than just running or shooting or fighting. Far from mindless entertainment, they could actually stir emotion within the player. It’s the game that inspired me to join the games industry and help create those experiences for others.”

Instead, the team had to spend more time worrying about the individual locations themselves, which were significantly more imaginative than their cartridge-based forebears. “It was actually a lot harder and took much more work realising the fully rendered backdrops for the towns and dungeons, as nothing like these had ever been done before at the time. Having said this, the world map in *FFVII* did play a very important role in the game. After the first part, which is spent in the oppressive and cramped environment of Midgar, the feeling of liberation and freedom at the moment when you step out onto the world map is one of the game’s most memorable highlights.” That’s completely true, and this was a stone’s throw from making it into our list of favourite moments. *FFVII* progressively puts more power in the player’s hands through the way they interact with the world.

“It took a lot of work realising the rendered backdrops, as nothing like them had been done before”

Random battles would remain part of the series, but as directed by the SIGGRAPH presentation, the actual look of them marked an exciting leap between generations. “We had decided on the idea of battles in 3D, with the camera panning and zooming around the action, from before beginning development on *FFVII*. In 1995, we created a prototype game based on doing the battles from *FFVI* in 3D and showcased it at the SIGGRAPH convention that year. This test game was made with an eye to perfecting the idea for the battles in *FFVII*.”

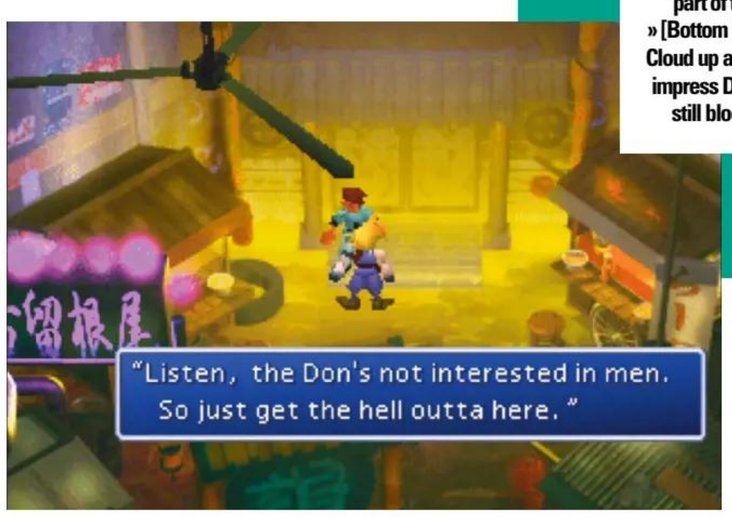
Aided by the straightforward yet endlessly customisable Materia-based ability system, as well as visually extravagant Limit Break attacks, the combat in *Final Fantasy VII* would never become a chore. This title also saw the best work of composer Nobuo Uematsu, building on his incredible music in *FFVI* with a series of stunning and highly memorable themes and leitmotifs. Any poignant, dark or pleasant instance is helped along enormously by his work, and he made an easy collaborator for Square. “We basically just showed Mr Uematsu the character designs and the scenario, and had him familiarise with the overall themes and images of the game before letting him loose. There were no specific detailed requests, and he was allowed to create the score comparatively freely,” says Kitase.

While HD technology and high-capacity storage media has let Square Enix realise the most elaborate of visions with *Final Fantasy*, there is something pure about the seventh game. It’s such a well-rounded experience that it’s obviously the product of a developer at a peak of creativity. Being the first *Final Fantasy* released in Europe, and armed with a slightly misleading marketing campaign that focused on FMVs over gameplay, it turned a historically marginalised genre into an international phenomenon.

That’s why there’s always talk of a remake. Yet gamers clamouring for this must surely realise the potential for disappointment – *Final Fantasy VII* was a product of the CD-ROM era, and everything was built on that foundation. To try to replicate that in today’s HD landscape would be a fun curio, sure, but we’re almost certain that it wouldn’t surpass the original.

Still, the constant talk of revisiting the game is a testament to gamers’ attachment to this world, to these characters, and to the themes of identity, life and death that no other entry in the series has matched. It is a masterpiece, born in the midst of Square enjoying the technological revolution laid before it, and justifiably becoming synonymous with the PlayStation platform. That long-anticipated wait for a remake has become reality as Square Enix has released the first part of its *FFVII* remake series. Whether the full reimagined story manages to surpass the original remains to be seen, but we can’t wait to find out.

Special thanks to Roxana Etemad for her huge amount of help with this feature.



» [Top right] The Forgotten Capital is a bizarre locale, and is still the most atmospheric part of this world.
» [Bottom left] Dressing Cloud up as a woman to impress Don Corneo is still bloody weird.

The Anatomy of CLOUD

He carries a big sword and always seems miserable, but just how much do you know about Final Fantasy poster boy Cloud?

SWORD & SORCERY

Though there is a whole load of swords for you to equip to Cloud that you gather throughout the game, none are as iconic as his famous starting weapon, the gigantic Buster Sword. It'd never work in real life, of course, but then never would Cloud's unfeasibly pointy hair. Besides, *Final Fantasy VII* is a game about a half-alien madman trying to destroy the planet being stopped by a magic wielding team that includes a man with a gun for an arm and a talking cat. In other words, forget about realism and embrace that badass sword.

TROUBLE & STRIFE

A poster boy for angst, Cloud's sullen demeanour early on in *Final Fantasy VII* has earned him a not-undeserved reputation as being a bit of an arse. As the game progresses, however, Cloud softens up a little as we get to know his backstory and the arrogant, uncaring front he puts up is broken down. Cloud begins as a former member of elite military unit SOLDIER, working as a mercenary for freedom fighters AVALANCHE. However, there's more to Cloud's past than meets the eye…

JACK OF ALL TRADES

Cloud is unquestionably the best character in *Final Fantasy VII* from a gameplay perspective, in part because he's an all-rounder with high stats in all categories. He's got good attack power, meaning you'll probably want him in the front row to dish out damage. But he's also the second best magic caster after Aeris, so you can focus on magic with him if you choose. If that's not enough, Cloud's got the most powerful Limit Breaks in the game, his signature move and final Limit Break being the devastating Omnislash.

SUPERSTAR

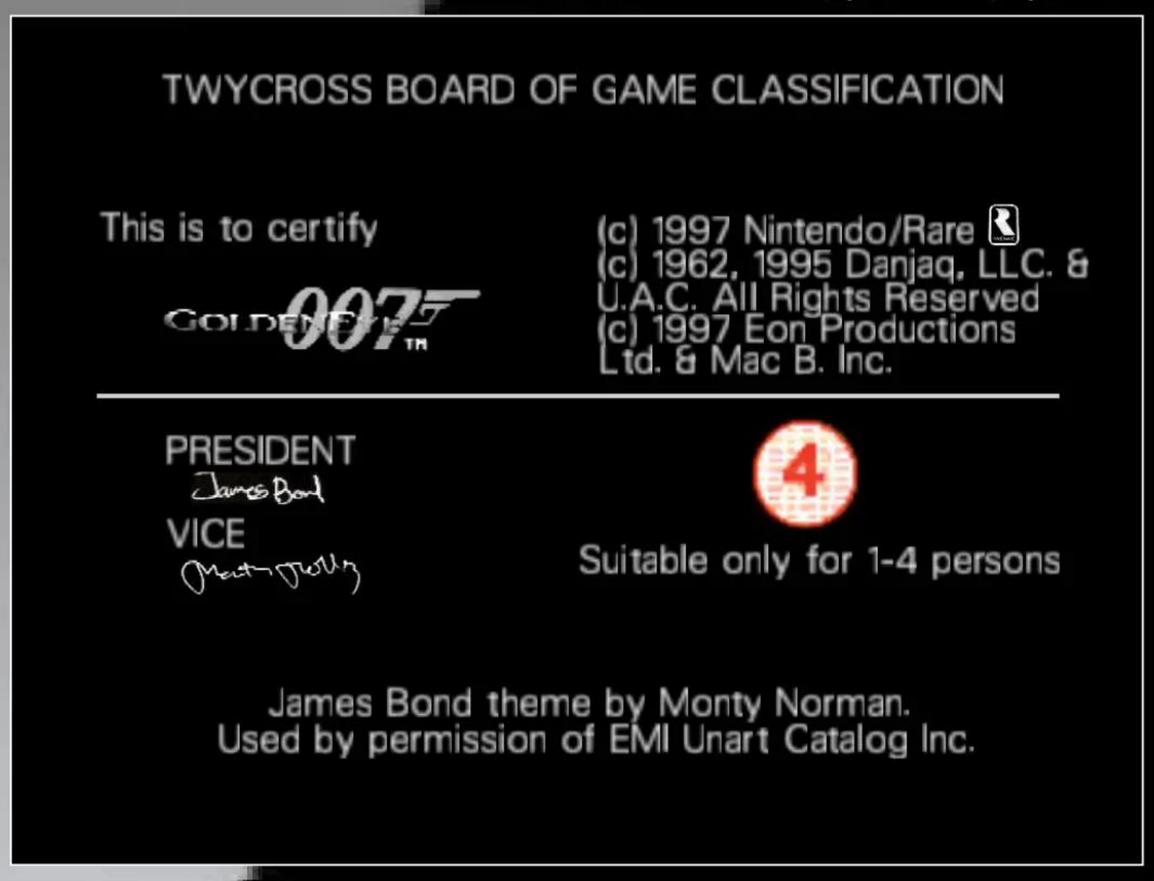
As well as being the protagonist of *Final Fantasy VII*, Cloud has made a number of other appearances. He appeared in the *Final Fantasy* themed fighting game *Dissidia Final Fantasy*, *Kingdom Hearts* and *Kingdom Hearts 2*, *Theatrhythm Final Fantasy* and *Chocobo Racing*, amongst others. He's even made an appearance in a film (albeit a rubbish one) in the form of *Final Fantasy VII: Advent Children*.

100 GAMES TO PLAY BEFORE YOU DIE

GOLDENEYE

21 years ago, first-person shooters were for PC gamers and Rare made very pretty platformers. Then GoldenEye came along and changed everything. We gather together four of the original development team – Dave Doak, Steve Ellis, Karl Hilton and Graeme Norgate – to tell us how they turned a film licence for a mysterious new console into the definitive console FPS. Paul Drury plugs in the joypads...

» Proof of the amount of work the boys put into *GoldenEye*'s presentation.


TWYCROSS BOARD OF GAME CLASSIFICATION
This is to certify
GOLDENEYE 007 TM
(c) 1997 Nintendo/Rare
(c) 1962, 1995 Danjaq, LLC. & U.A.C. All Rights Reserved
(c) 1997 Eon Productions Ltd. & Mac B. Inc.
PRESIDENT
James Bond
VICE
4
Suitable only for 1-4 persons
James Bond theme by Monty Norman.
Used by permission of EMI Unart Catalog Inc.

Pub bores the world over be silenced. We know who the best Bond is. It's Roger Moore. Wait, come back. We have empirical evidence.

"Right near the end of development", explains Dave Doak, "a guy came in from EON who owned the Bond licence and saw we had put in Connery, Dalton and Moore as well as Brosnan. We thought it would be great for marketing and even some screenshots went out with Connery in his white tuxedo. Then an edict came down from on high and we had to get rid of the other Bonds, so on the day we had to take them out we played this epic deathmatch – first to a hundred kills – which went on for about three hours. Mark Edmonds played as Moore and won by one kill. It went down to the wire…"

GoldenEye's enthralling multiplayer shootouts were thus denied an intriguing proposition. But then the game was never conceived as a four-player grudge match. In fact, it wasn't even conceived as an FPS at all in the beginning. Karl Hilton recalls the first mooting of the project: "I started at Rare in October 1994 and they had me modelling cars and weapons to see if I could do it for no particular game. Martin Hollis wandered in – he tended to float around – and said he was leading a team to do a *Bond* game. I'd been highlighted as someone who might be interested and of course I was, but in the back of my mind I was thinking, Oh God, a film licence. The previous ones had been 2D *Robocop* or

"The first thing I did was model the gas plant. You could follow a route through the level like in Virtua Cop. Then we decided to take it off the rails" KARL HILTON

IN THE KNOW

» **PUBLISHER:** NINTENDO

» **DEVELOPER:** RARE

» **RELEASED:** 1997

» **SYSTEM:** NINTENDO 64

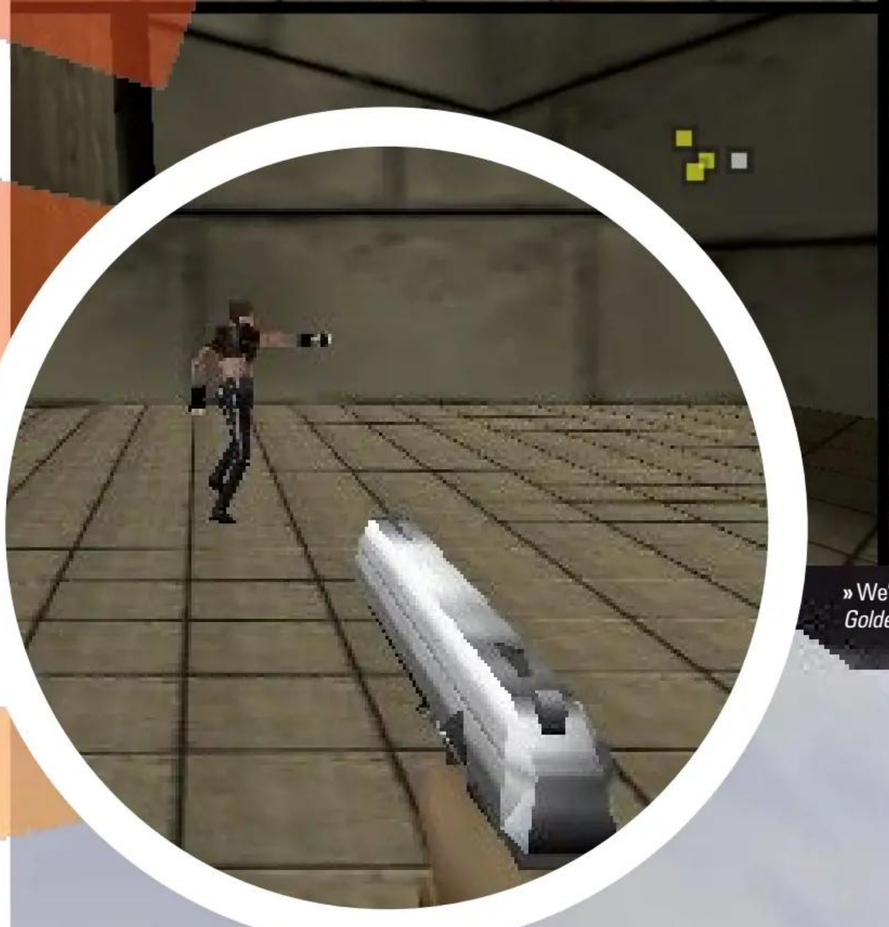
» **GENRE:** FIRST PERSON SHOOTER

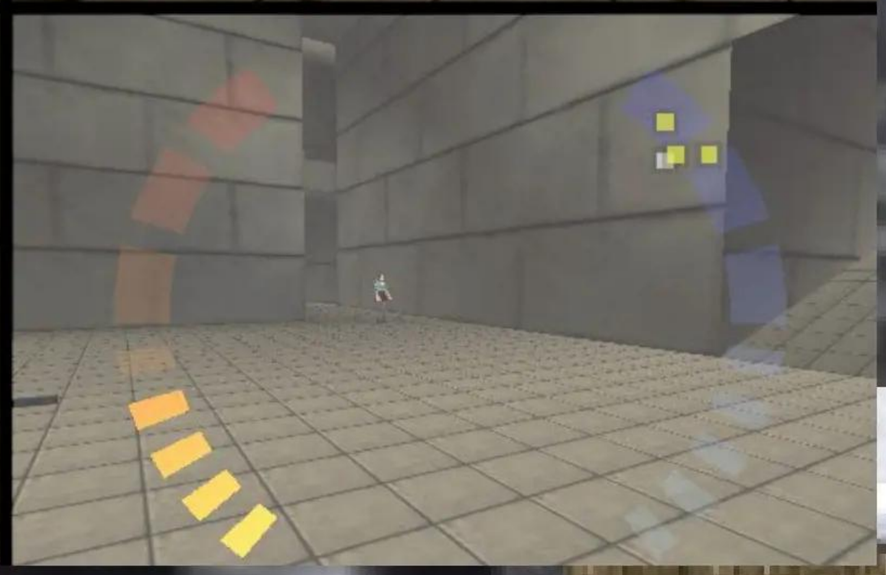
DEVELOPER HIGHLIGHTS

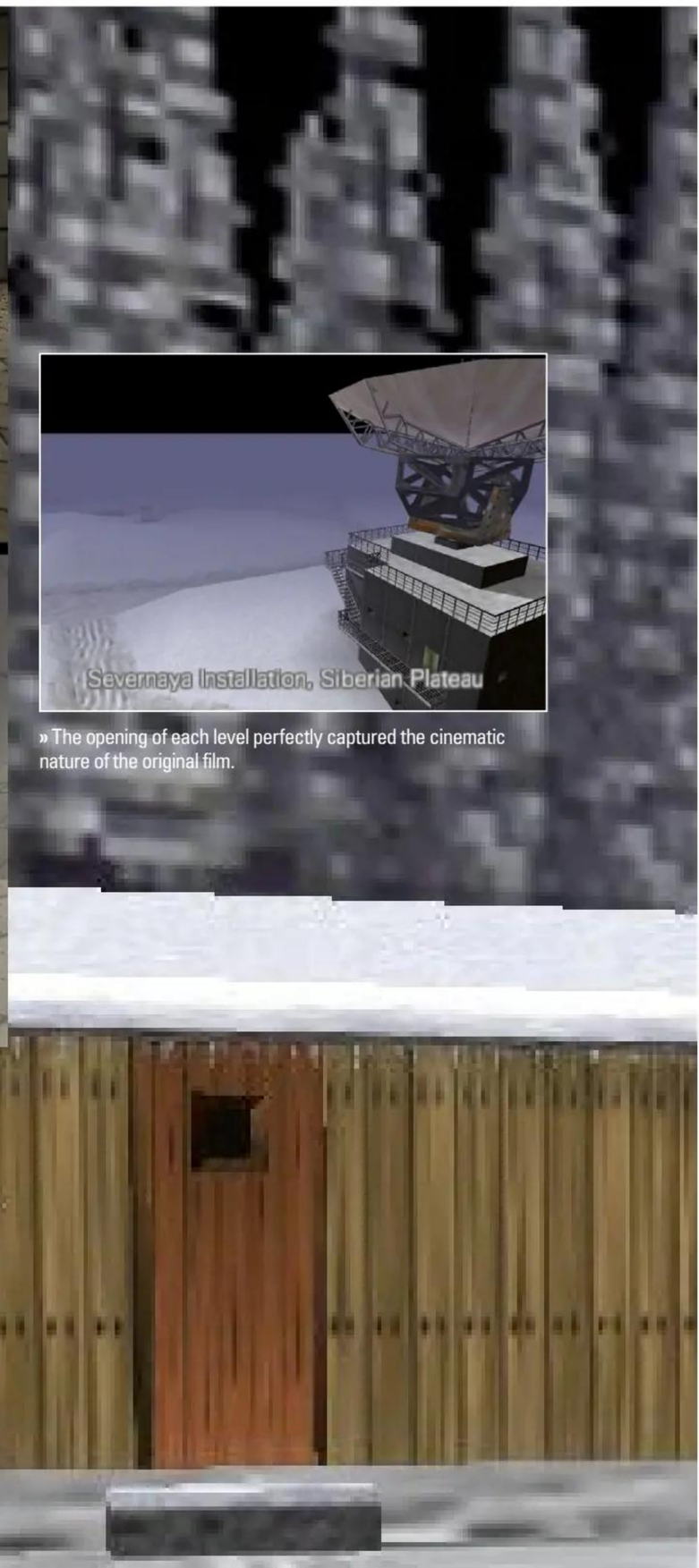
TIMESPLITTERS
SYSTEMS: PS2
YEAR: 2000

SECOND SIGHT
SYSTEMS: PS2, XBOX, GAMECUBE, PC
YEAR: 2004

HAZE
SYSTEMS: PS3, 360, PC
YEAR: DUE 2007







» The opening of each level perfectly captured the cinematic nature of the original film.

» We've lost count of the many hours we've spent playing *GoldenEye*'s superb multiplayer.

PLAY AND LEARN CHRIS

"We didn't know whether multiplayer was technically possible", admits Steve. "It was an experiment that didn't begin until May… and the game came out in August! I trawled through the code to find anything that referred to the player and made it work for more than one. I got it going for two first and then frame rates meant it couldn't work for all levels. Karl went off and built the Complex and Temple and had strict instructions not to put more than so many polygons and textures on screen. Then it was just a case of playing it.'

Graeme: "I first saw it as four-player split screen and said, 'Wow Martin, you've got multiplayer!' He was, 'Oh no, no, you didn't see that, it's a complete secret…' The concern was that half the coding team was being allocated to some frivolous thing that might not work. The Stampers had actually said, no multiplayer. Chris Stamper wondered that if you had four view ports on screen so you could see what others were doing, how could it possibly be fun?!'

Batman games and they were generally awful. It seemed a risky project."

Initially, the intention was to do a 2D side-scrolling platformer for the SNES, a genre that Rare excelled in after the seminal Donkey Kong Country, but Hollis insisted the game should be in 3D and produced for Nintendo's enigmatic Ultra 64, which was still in development. He also made explicit his design model: Sega's lightgun arcade hit *Virtua Cop*.

Karl: "When I got involved, the first thing I did was model the gas plant. We put a spline (sic) through the level so you could follow a route like in *Virtua Cop*, but it didn't go further than that. We decided to take it off the rails. Some of those early builds had bits missing because you'd never be able to see them and I remember going back and filling in the holes."

"GoldenEye's not your University project' Tim Stamper told us one day! As heads of Rare, the Stampers probably had to make a lot of excuses"

STEVE ELLIS ON WHY THE GAME APPEARED TWO YEARS AFTER THE FILM

GoldenEye was forging its own path, a departure from the Rare games that had gone before. When you consider that this was the first project for eight of the nine team members, that was perhaps to be expected. They may have been inexperienced, but they were unfettered by expectations of what a game could and couldn't be. They turned naivety into ambition and the enforced isolation of this happy band – "Rare organised teams into separate barns and you only had keys to your particular cell block", quips Dave – meant that the newbies on the team had to find their own way.

"Because it was most people's first game", explains Graeme Norgate, "we did things we might not do again because it was too much work. We didn't take the easy route. If something sounded like a good idea, it was like, 'Yeah let's do it!' The world was our oyster! Only afterwards would you find it was a world of pain."

At least it was a world of their own making. "It was untrammelled by arseholes", explains Dave. "Nowadays, publishers get people who don't know about games to run projects. We hadn't worked on a game before but the difference was we were having to do the work. Our wish-list of features would be things we knew would be good and we could do. There was some smart hiring and cherry-picking of people. We all had ambition and were hardworking. That's how he managed to get that much content out of us."

Martin also encouraged the team to draw on their love of the *Bond* films they had all grown up with. He recognised the inherent appeal of playing as the suave hero who had defined cool for so many aspiring young agents over the preceding decades. No longer would you simply be a floating gun as in *Doom*. Now you were England's deadliest and coolest weapon.

Karl: "I remember the first time we got Bond's hand in with the watch. We

» Limited shooting and careful movement enabled you to make your way stealthily through many levels.

» The sniper rifle, a joy to use and essential for getting the drop on the enemy.

scanned it in and modelled it up and it had the cuff of the white tuxedo. I thought, hey, I'm James Bond! And then we put that thing in where the camera flies into the back of Bond's head at the start of a level. It tied you in."

A key part of that appeal was the infamous Licence to Kill. *GoldenEye* was a first-person shooter of course, but the decision to recognise body-specific hits introduced a new subtlety to the genre. Shoot a guard in the leg and he reacts differently to if you blasted him in the chest. Each part of the body was given a weighting, expressed as a fraction. Hit a limb or the torso and your enemy would be pushed closer to a damage count of one and death. Or you could go straight for the head. A bullet in the brain equalled one. Instant death. One-shot kills became very popular.

Headshots were not only disturbingly satisfying though. They created a whole new way to play. Dave explains: "The way detection worked was very simple but fundamentally changed the set-up. Whenever you fired a gun, it had a radius test and alerted the non-player characters within that radius. If you fired the same gun again within a certain amount of time, it did a larger radius test and I think there was a third even larger radius after that. It meant if you found one guy and shot him in the head and then didn't fire again, the timer would reset. It wasn't realistic but it meant the less you shot, the quieter you were, the less enemies came after you. If an NPC that hadn't been drawn and was just standing in a room waiting was alerted by gunfire, it would duplicate itself and one went to investigate. You can see it happening sometimes – if you go to the right place and make a noise, you see more enemies spawning."

Stay hidden, keep quiet, make every shot count… almost inadvertently, the team had invented stealth gaming. Of course you could still go in all guns blazing, but once players got to grips with the sniper rifle and realised that enemies had distinct blind spots to exploit – they could only 'see' you if they could walk to you in a straight line, meaning you could peer out from behind cover or line up a fatal headshot through windows – the sneaky approach was not only very appealing, it was vital in successfully completing many of the game's trickier missions. It was a surreptitious tactic that emerged naturally, rather than being pre-determined.

Karl: "When we had plenty of film material, we tried to stick to it for authenticity but we weren't afraid of adding to it to help the game design. It was very organic. Dave would come in and say he needed an extra door and a room somewhere and we'd add it in. Back then, it was so much quicker. It'd be half a day's work to add in a new corridor and a room."

This sense of freedom to try new things, to experiment with level design, play it exhaustively and let the experience determine what direction development would go was crucial to how the team worked. They weren't enslaved to a rigid design document, meaning everyone could contribute to game design. Nothing was set in stone. Not even the hardware.

Considering how the finished *GoldenEye* feels so suited to the N64, it's easy to forget the machine didn't exist for the first year and a half of its development. The team was using SGI Onyxs, hugely expensive Silicon Graphics machines, guessing at what the specs of Nintendo's new console might be and using a butchered Saturn controller to playtest. As it turned out, when they finally received the finished console they were pleasantly relieved. Despite costing a fraction of the SG workstations, fortunately Nintendo had come good on most of

M SPEAKS

We managed to catch a word with the man responsible for overseeing the *GoldenEye* project, Martin Hollis. So, having assembled his team, were they a handful to manage? "That's a cheeky question", replies Martin, "and I like it. I'm not a terribly dictatorial manager. Oh they were fabulous because we all fitted together so well. We did have a shared vision, which happened naturally and everyone knew what *Bond* was about which helped us to get there. So no, they weren't difficult to manage. Now if you asked my management about me, they might tell a different story…"

Martin continued to lead the team as they began work on *Perfect Dark*, but left Rare in 1998 to set up his own company, Zoonami. Visit its website www.zoonami.com for a transcript of the fascinating speech he gave at the European Developers Forum in 2004 on the making of *GoldenEye* plus details of the company's recently released game, *Zendoku*. "Think Sudoku meets ninjas", he says helpfully. Martin's favourite Bond girl is Jane Seymour and he assures us he could have triumphed over his former colleagues if he'd been part of the developer deathmatch and we've convinced him to be a future castaway for *Desert Island Discs*. Result.

FREE AT LAST

While *GoldenEye* was instrumental in popularising the console FPS and introduced a myriad of new ideas to the genre, the game has a very tangible legacy to those that worked on it. Steve: "Free Radical Design was set up on the back of *GoldenEye*. It led us to signing a deal in the first place. It opened doors for us to do what we've gone on to do." FRD has gone on to become a major creative force in FPS development, producing the *TimeSplitters* series and currently working on *Haze* for PS3 due out later this year. Success has seen the Nottingham-based company grow enormously and with 160 employees and relationships with publishers such as EA, Ubisoft and LucasArts, have the boys ever considered going back to *Bond*? Karl: "It's been suggested at times by people, but publishers have to pay so much for the *Bond* licence it puts them off. Actually, it would be good to do *GoldenEye* again with new technology and do things we wanted to first time." Before we all get too excited though, he adds: "If FRD did a *Bond* game I'm sure it would be good, but there's no GoldenEye magic dust you can sprinkle on."

its promises. "The processor ended up being three quarters of what they had told us", explains Steve. "We had to cut the textures down by half."

Unfortunate, but not a disaster. And they coped with the reduction in admirable retro fashion. "A lot of *GoldenEye* is in black and white", admits Karl, rather surprisingly. "RGB colour textures cost a lot more in terms of processing power. You could do double the resolution if you used greyscale, so a lot was done like that. If I needed a bit of colour, I'd add it in the vertex."

As their semi-colourful *Bond* world was taking shape on the small screen, the film it was based on was nearing completion. The team had received the script very early in development and visited the set at Leavesden Studios, housed in an old Rolls Royce factory, half a dozen times. "We had really good access", says Karl. "We could walk anywhere and photograph what we needed. After the first few visits, I realised we needed textures. I started taking photos of walls!"

Visiting the filmset undoubtedly helped cement the game world in the minds of the team, but it also reminded Rare that the clock was ticking. While trying to release the game in tandem with the film had never been considered a viable proposition, the thought of it not appearing until the next *Bond* movie hit cinemas instilled an understandable sense of urgency.

Steve: "'It's not your university project' Tim Stamper told us one day! As heads of Rare, the Stampers probably had to make a lot of excuses. That's what we have to do these days. Why isn't it out yet? Why is it crap? We never had to answer those!"

Perhaps the Stamper Brothers' greatest contribution to *GoldenEye* was fending off such enquiries and allowing the team time to develop a 3D game in what were still uncharted waters. Being able to play *Mario 64* on the new console was a key influence.

Dave: "When *Mario* arrived it was clearly a step forward. Martin was obsessed with the collision detection, which was obviously doing it in 3D and *GoldenEye* was essentially using a 2D method. And our story was only about shooting stuff – we needed other things. We started putting in objectives, like meeting people in a level and back then that involved some complicated AI. Finding Boris, guiding him through and making him decode something… that wasn't easy! Other levels, you could hear the barrel being scraped – collect five arbitrary pieces and go here, but *Mario* had plenty of that shit, which is pretty boring. We punctuated it with stuff like go and blow this thing up! Like the canisters at the end of Arkhangelsk. It's in the film and we could have just said go here and press X – Karl had built that in the background but it wasn't going to explode. But wouldn't it be nice if it did? So the canisters became a 'prop'. A bloody big prop. And the explosion had to be big enough to mask you switching one object with another. But then if it's a gas plant, shouldn't we have gas? We can't do f*cking gas, but we have got fog… maybe we could change the fog settings? Can we use that more than once? Maybe in the Egypt setting?"

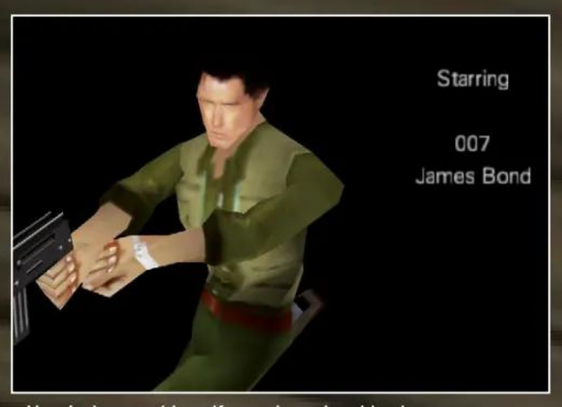
For a game with more than its fair share of wanton destruction, the team became remarkably good at recycling. The radar on multiplayer mode is actually an oil drum texture, which explains the cloudiness on the right, and sometimes whole levels were created with the detritus they had to hand.

Karl: "As the engine got better, we were very good at reusing things. We decided we'd do the meeting room from *Moonraker*, which I just loved. We couldn't do it round, that was just too expensive, but we did a square version and linked it with being under the shuttle. Dave said those chairs just have got to fold down like in the film so we did it with door code. I remember one chair always folded wrong, but it would have taken so much coding to get it right, it was like, hey, leave it as a bug! The shuttle was made from reused satellite textures and to make it take off, we used grenade explosions. That whole level is something of a big hack job, but it's one of the nicest looking."

GoldenEye was always good at giving you the big picture, from the dramatic bungee jump down Byelomorye dam at the opening to the final shoot out on

» Ahh, the beauty of the doorway. It provides a perfect bottleneck to take out enemies.

» (From left to right) Karl, Steve and Graham were more than happy to revisit *GoldenEye's* multiplayer when **Retro Gamer** turned up with its N64.



» Here's the man himself, tuxedo noticeably absent.

the Antenna Cradle, but much of its enduring charm is in the detail. Bullet holes in glass, graceful forward rolls, hats being blown off heads and the knocking knees of terrified scientists.

"Those are Duncan Botwood's knees", laughs Karl. "He wasn't a professional actor, he was one of the team! There was only one big motion-capture shoot and we realised someone was going to surrender at some point, so it was, 'Put your hands up and shake your knees'. Then it would be, 'Stand there and we'll push you over'. I think we must have breached Health and Safety quite a lot…"

Graeme: "Duncan's line was, 'I had to die a million times for *GoldenEye*'. There were plenty of times when we'd get him to close his eyes and he didn't know when he was going to be pushed. He went through a lot for the game. There was blood."

It wasn't the only occasion when the nearest warm body was put to good use. Alongside the faces of Pierce Brosnan, Robbie Coltrane et al, Bea Jones scanned in virtually all the staff at Rare. At the start of each level, five faces from the extensive collection are picked at random and plonked on the bodies of your adversaries. All the development team are in there and Karl remains rather proud of the manly scar added to his own mug. More cameos were to follow, explains Steve.

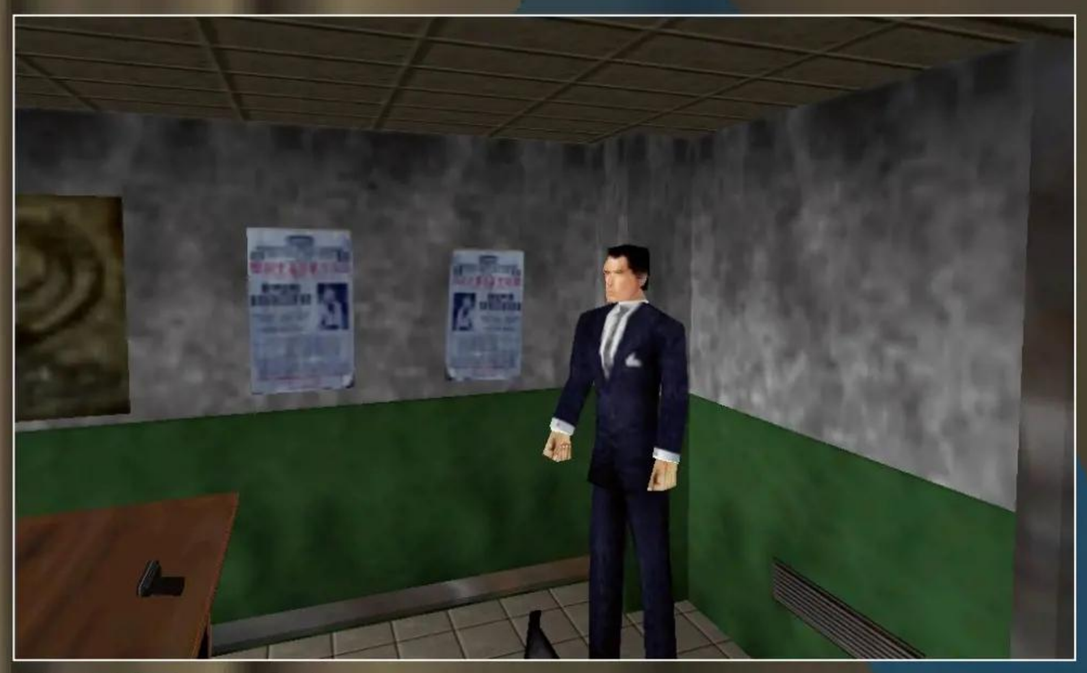
"There are a few monitors in the game – one has Dave in sunglasses and a Russian hat Karl had bought in Berlin, there's one with Mark in a bowler hat on a skateboard and another has Karl doing a Python silly walk. We were just trying to make the monitors seem alive."

A notable omission are the Stamper Brothers, who declined the opportunity to have their faces featured in the game, perhaps wary of giving employees the chance to shoot their bosses at close range. But the brothers' faith in the project, protecting the team from outside interference and giving them the space to produce the best game they possibly could, means they can hold their heads high. So many of the things that make *GoldenEye* special – the bonus Aztec and Egyptian levels, the AI that sees guards dashing for alarms and the wonderful multiplayer mode (see boxout) – were the result of not having to rush out a product to meet a demoralising deadline.

Steve: "The reason it turned out so well is that no one was standing over you saying you don't need to do that, move on to the next bit. I was on the explosions for a month and I didn't have someone telling me I'd had a week and that was enough. If there had been, the game might have been out on time…"

But it wouldn't have been the game it turned out to be. The entire team flew out to E3 in 1997 to present a 99 per cent complete version of *GoldenEye* and while the game was well received, no one predicted the phenomenal success that followed. A staggering 8 million copies were sold worldwide and it remains the biggest selling N64 game in the USA, outdoing *Mario 64*, *Ocarina Of Time* and *Mario Kart*. "Actually, I was concerned it wouldn't be able to compete with *Turok*", admits Karl. "That looked better and had a better frame rate… and dinosaurs!"

Laughter all round and an appropriate juncture for the team to pick up their pads and revisit the game that marked their entry into the industry. As Steve plays through the opening level, memories are triggered like sticky mines. How Martin had done a 3D gun barrel that had to be dropped due to frame rate issues; how code had been written to let you drive the van, but it caused too many problems if you got the vehicle stuck in a dead end; how the unreachable island you can see far in the distance from atop the dam originally had a solitary guard patrolling it; how they'd had to label certain wall textures as 'floor' so guards could 'see' you, which meant they would occasionally leap out of bunkers inexplicably. "At one point, we were going to have reloading done by the player unplugging and re-inserting the rumble pack on the controller", remembers Steve. "Nintendo weren't keen on that idea and I think it might have affected the pacing a bit…"



» The name's Bond… James Bond.

So to the main event – a ten-minute deathmatch – and as our four agents trade headshots and insults, they start to reel off the things *GoldenEye* pioneered. The sniper rifle, the gun disconnected from the camera, the civilian AI, the 3D explosions, the environment mapping (look closely at a shiny surface and you'll notice a low resolution reflection of your surroundings), body-specific hit reactions and the tasty option of dual-wielding weapons. "Didn't *Halo 2* invent that seven years later?" chuckles Karl. The list goes on, yet more fundamentally, they proved that a story driven FPS, a genre previously confined to PCs, could triumph on a console. Countless others have followed, but *GoldenEye* remains a benchmark.

And the winner? Appropriately enough, Steve, the creator of the multiplayer mode that everyone loved, nicks it by a single critical kill. Then the defeated trio realise he's been playing as Oddjob, whose diminutive stature bestows a distinct advantage and the room echoes with cries of cheat and demands for a rematch.

GoldenEye: still inflaming passions twenty one years on.

» Dave Doak discovers that he still has that multiplayer magic. Just not enough to beat Steve Ellis.

"For the motion capture, we'd get Duncan to close his eyes and he didn't know when he was going to be pushed. He went through a lot for the game. There was blood"

GRAEME NORGATE ON WHY THOSE GUARDS LOOK LIKE THEY'RE REALLY FEELING IT

As the fifth numbered instalment of the franchise hits the shelves, Steve Holmes journeys to Shadow Moses to take a look at the bevy of groundbreaking features that made up one of the most special videogames ever made

METAL GEAR SOLID

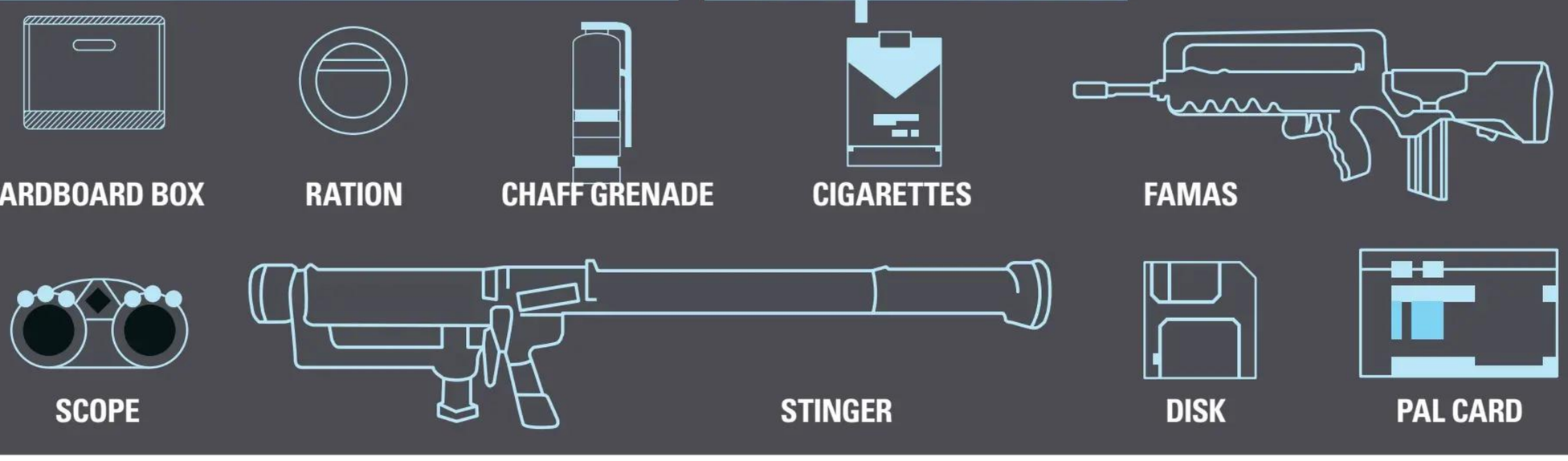
There absolutely had to come a time when videogames became like movies. We're desensitised to it now, having experienced the explosive set-pieces of *Uncharted*, the masterful pacing of *The Last Of Us* and the grandiose narratives of games like *Heavy Rain*, but another game hit all three of these buttons and did it a long time ago. In *Metal Gear Solid*, achieving a cinematic effect didn't reside solely in graphics, voice acting or cinematography, but in a glorious cocktail of all of these individual facets and more that resulted in what is still one of the greatest overall presentations of all time.

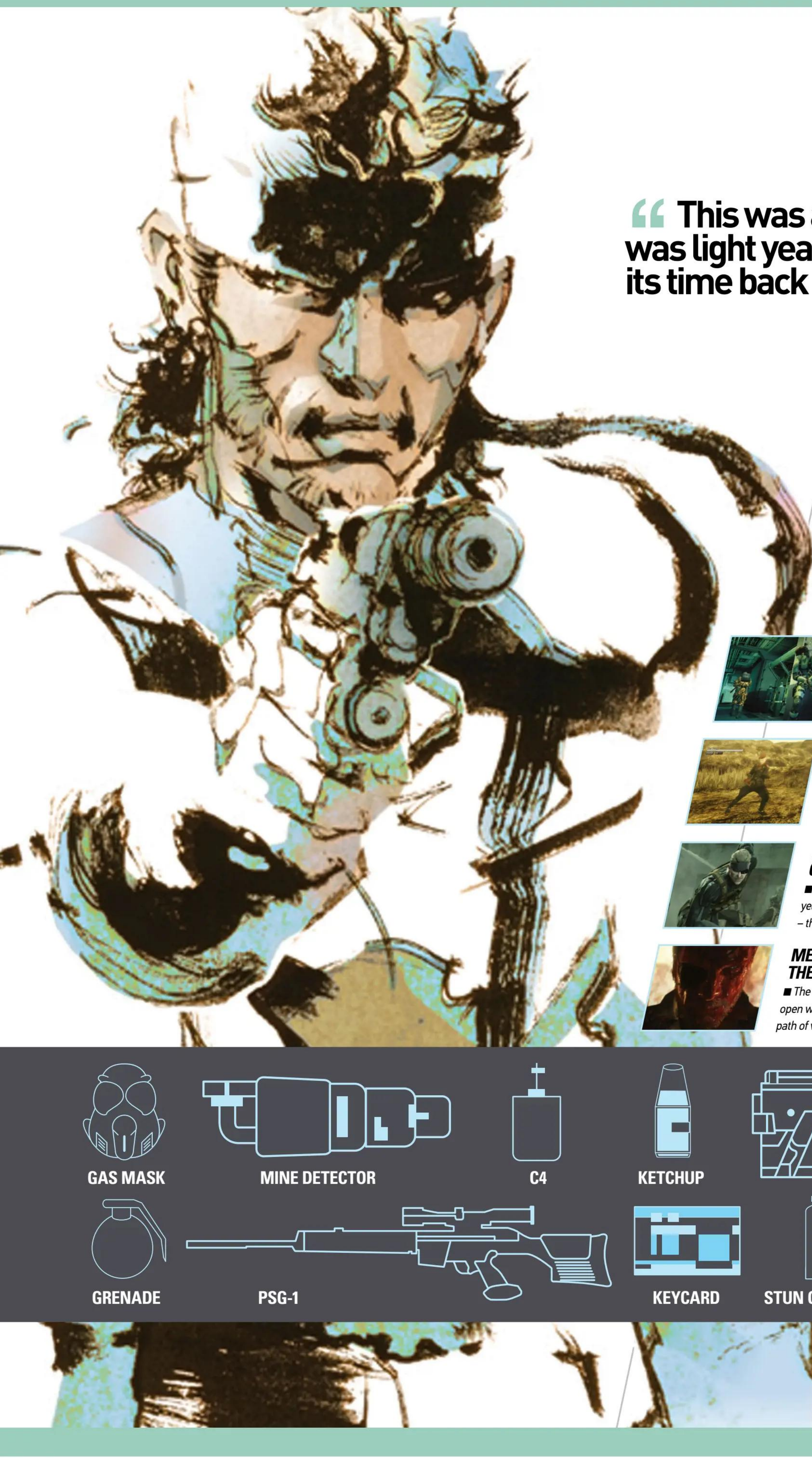
Coming off the back of two *Metal Gear* titles for the MSX, Hideo Kojima and his team had endeavoured to develop *Metal Gear 3* for the 3DO in the mid-Nineties after the release of *Policenauts* for the ill-fated multimedia console, but development was soon shifted to Sony's PlayStation. The intention was to build a truly cinematic stealth experience that would garner the reputation of being the greatest PlayStation game ever made, and looking back at it now – to play it again, slowly and thoroughly, after all these years – really does encourage that way of thinking. This was a game that was light years ahead of its time back in 1998 and still offers a more accomplished and considered experience than most triple-A games since.

From the very start, Kojima's desire to create a videogame that bore all the hallmarks of a movie is apparent, as Solid Snake infiltrates Shadow Moses island to prevent a terrorist cell from launching a nuclear weapon. The terrorist group, made up of ex- ▶

PIXEL PERFECT

One of the best things about Metal Gear Solid was its vast array of weapons and items you could use





“This was a game that was light years ahead of its time back in 1998”

Les Enfants Terribles

The games that followed

METAL GEAR SOLID 2: SONS OF LIBERTY *2001*

■ *The most derided MGS game caused quite the stir when it was released, by shelving Snake as a protagonist for new guy Raiden.*

METAL GEAR SOLID 3: SNAKE EATER *2004*

■ *Many people consider Snake Eater to be the best game in the series. The mechanics were miles ahead of anything on PS2.*

METAL GEAR SOLID 4: GUNS OF THE PATRIOTS *2008*

■ *After learning that he has little more than a year to live, Snake takes on one final mission – the assassination of Liquid Ocelot.*

METAL GEAR SOLID V: THE PHANTOM PAIN *2015*

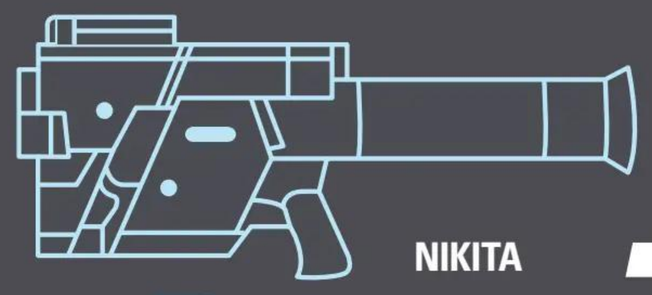
■ *The Phantom Pain is set in an enormous open world and sees Big Boss embark on a path of vengeance through Afghanistan.*

GAS MASK

MINE DETECTOR

C4

KETCHUP



NIKITA

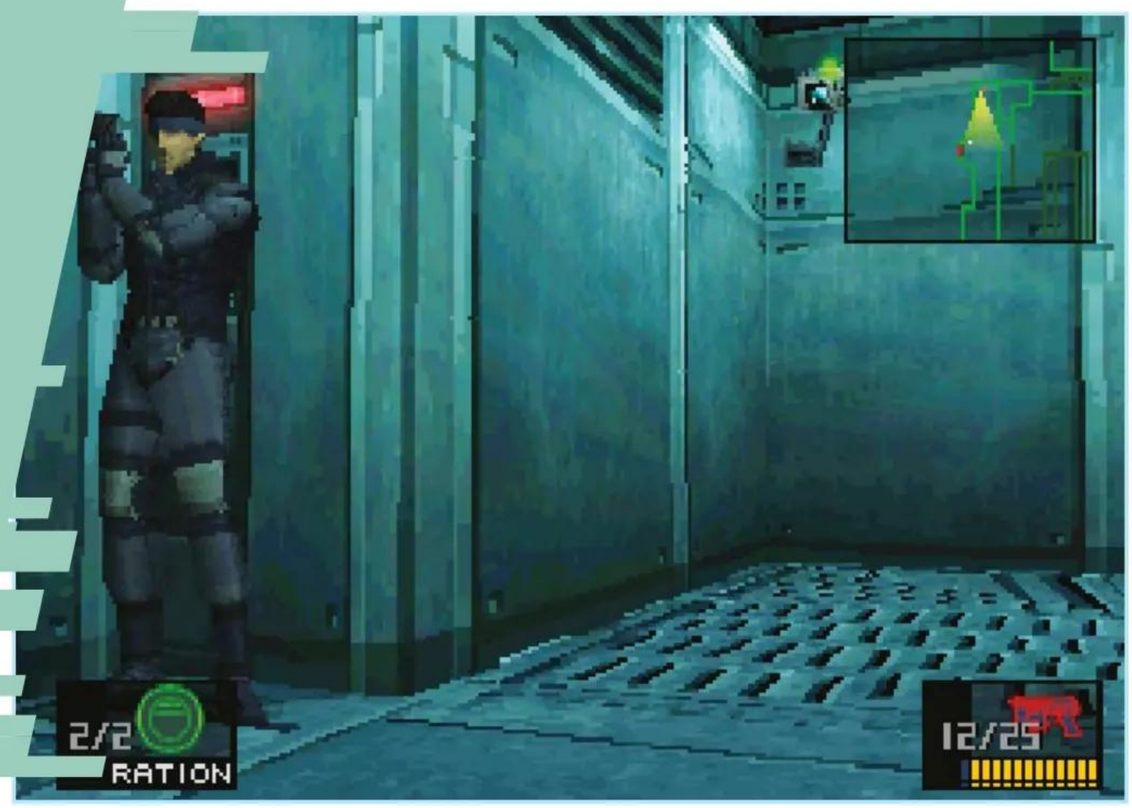
GRENADE

PSG-1

KEYCARD

STUN GRENADE

SOCOM



» Cameras are everywhere, but thanks to your Soliton Radar, they're easy to avoid with patience.

» Much of the story exposition in *Metal Gear Solid* takes place during Codec conversations.

"Even though you're playing from what is effectively a top-down perspective there's a tangible sense of control to what you're doing"

▶ members of the special forces group FOXHOUND, are demanding delivery of the remains of Big Boss, a legendary war hero that Solid Snake defeated with a makeshift flamethrower at the end of *Metal Gear 2*. It's a quintessential action plot, really, and it's only later on that you start to feel the narrative flourish into a web of interwoven plot lines, character relationships and government conspiracy. Only *Metal Gear Solid 3: Snake Eater* has managed this clarity of storytelling since, when you look at the rest of the franchise. As for FOXHOUND, it still stands as a truly memorable rogues' gallery with a varied roster of boss fights that required a different approach and different items to best.

Graphics were considered to be pretty decent back in the day but, alas, as with most polygonal games of that era, it looks rather dated now. This is perhaps the one area in which the game hasn't stood the test of time, but if a better looking version is what you're after then 2004's *The Twin Snakes* for the GameCube has you covered, although this version of the game made quite a few changes and had Snake leaping around like a ninja.

If you can ignore the muddy aesthetic, though, there's a sense of realism in the gameplay

» *Metal Gear Solid* was one of the many killer apps available for Sony's PlayStation.

SECRETS AND LIES

Five of the numerous hidden moments in Metal Gear Solid

DEAD OR ALIVE

■ *After your first scrap with Sniper Wolf, you're interrogated and tortured by Revolver Ocelot. If you submit to torture, Meryl will be killed and you escape with Otacon at the end instead.*

GOOD VIBRATIONS

■ *In this scene that occurs in the midst of Snake's torture, Naomi Hunter offers to comfort him by stimulating the nanomachines inside his body, making your controller vibrate in the process.*

IRRITABLE BOWELS

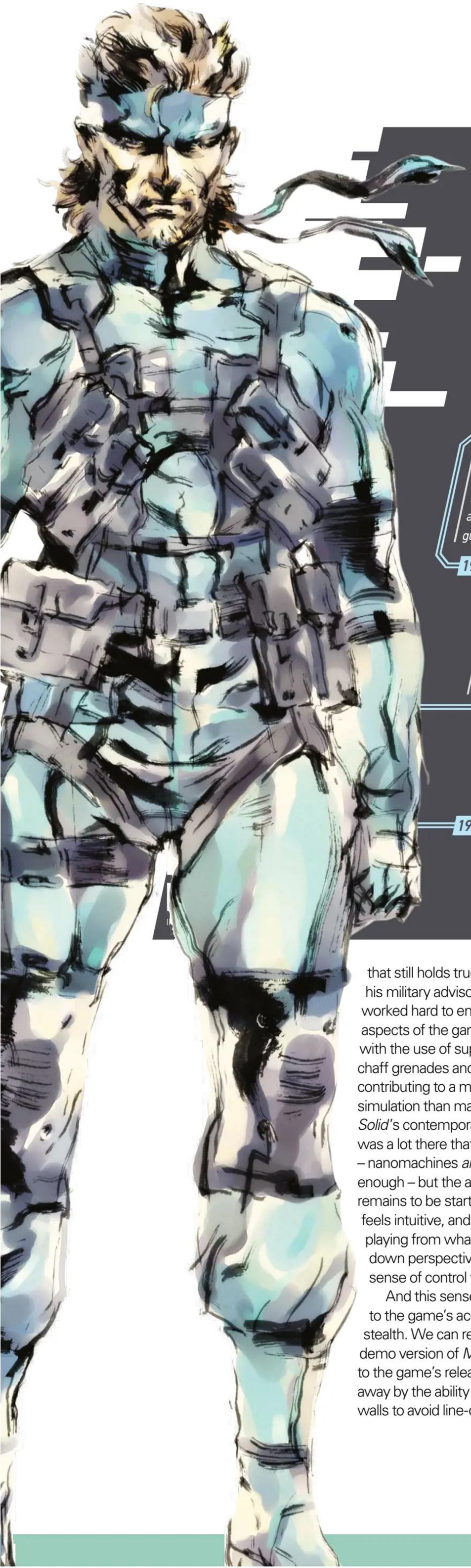
■ *The soldier that Meryl knocks out and subsequently ends up guarding an imprisoned Solid Snake is Johnny Sasaki, a recurring character that eventually marries Meryl in MGS4.*

EGO ATTACK

■ *Psycho Mantis does a great many things when you encounter him, but there's a moment where the screen clips and then fades to black, with the word HIDEO appearing across it. This joke is repeated in MGS2.*

MIND READER

■ *Before the boss fight, Psycho Mantis famously reads your memory card to see how much you've saved and how many times you've died, as well as other games that you've played before. Creepy.*

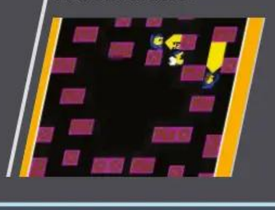


ALL IN THE GENES

The DNA of Metal Gear Solid

1981 — 005

■ Sega's *005* is often credited as being the first ever stealth game, and even features the ability to hide in boxes.



1981 — CASTLE WOLFENSTEIN

■ Another early stealth title that laid foundations for what Hideo Kojima would popularise for modern times with *Metal Gear Solid*. You can sneak past guards and even impersonate them.

1987 — METAL GEAR

■ Hideo Kojima's MSX original was essentially the backbone of what he'd create for the PlayStation.

1988 — HOSTAGES

■ Developed by New Frontier, *Hostages* had you infiltrating an embassy and rescuing, you guessed it, hostages.

1988 — SNATCHER

■ One of Kojima's earlier titles, *Snatcher* brought adventure and sci-fi together – two things that he later explored heavily in *MGS*.

1994 — POLICENAUTS

■ Kojima began to hone his storytelling craft with his science-fiction opus. A poster for the game can be seen in Otacon's office.

1994 — FINAL FANTASY VI

■ Given *Metal Gear Solid*'s narrative focus, it's easy to see how Square's franchise could have had an influence.

1997 — GOLDENEYE 007

■ Kojima has said before that he's a massive *Bond* fan, and we like to think that this timeless shooter imparted some inspiration.

that still holds true today. Kojima and his military advisor, Motosada Mori, worked hard to ensure that the military aspects of the game were authentic, with the use of suppressed weapons, chaff grenades and mine detectors contributing to a more serious military simulation than many of *Metal Gear Solid*'s contemporaries. Obviously, there was a lot there that was exaggerated – nanomachines *aren't* a thing, funnily enough – but the attention to detail remains to be startling. Each weapon feels intuitive, and even though you're playing from what is effectively a top-down perspective there's a tangible sense of control to what you're doing.

And this sense of realism extended to the game's ace in the hole – its stealth. We can remember playing the demo version of *Metal Gear Solid* prior to the game's release and being blown away by the ability to huddle against walls to avoid line-of-sight detection, the way that you could knock on a wall to distract an unsuspecting sentry and the fact that your footsteps left tracks in the Alaskan snow that could be tracked by the enemy. We'd just never seen anything like it before, and although such mechanics are child's play nowadays, they really stood out back in 1998.

Of course, if you wanted to experience complete and utter realism you wouldn't be playing a videogame, and Hideo Kojima, as you'll know if you've played Metal Gear Solid or any of its sequels, understands this better than most directors out there. There are numerous occasions on which there's a nod toward breaking the fourth wall with a little knowing humour, like Meryl shrugging towards the camera when you tread on a mine before Sniper Wolf and the references to pop culture when you're desperately trying to

» In this early confrontation, Kojima forces you to resort to shooting rather than sneaking.

» Environments are pretty varied, considering the fact that the whole story takes place in one location.

BOSS RUSH

Pitted against Solid Snake were the ruthless and deadly members of FOXHOUND, a tank, a helicopter and a massive robot. Easy

BOSS 1

REVOLVER OCELOT

■ *A gun-toting, duster coat-wearing nonsensical old Russian chap, Revolver Ocelot eventually proves to be pretty much the most important character in the franchise later on, yet his appearance here is pretty demure.*

HOW TO BEAT THEM: *As you're in a small room filled with C4, the first thing to bear in mind is not to shoot across the room at Ocelot, but instead pursue him round the edges and pick your shots carefully. Change direction regularly and wait for openings when he's reloading.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 2

VULCAN RAVEN (TANK)

■ *When you leave the hangar after defeating Ocelot, a very large man in a very large tank is waiting for you. This is your first showdown with the shaman, Vulcan Raven.*

HOW TO BEAT HIM: *Grenades are essential for this fight, and you should have some from the second floor basement in the first area. Crawl until you can get near the tank without it firing its main gun, and then run around it to avoid machine gun fire and keep lobbing grenades. You can also use Claymores to slow him.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 3

GRAY FOX

■ *You hear rumours of the ninja's exploits as soon as you arrive in Shadow Moses and he's not to be underestimated (especially on harder difficulties). Gray Fox is central to the plot.*

HOW TO BEAT THEM: *In the first few minutes of the fight, engage him in fisticuffs – if you shoot at him he'll deflect your rounds. Once he starts vanishing, use Chaff Grenades to mess with his suit and go to town with the FAMAS. Be sure to avoid his plunging attack – it hurts.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 4

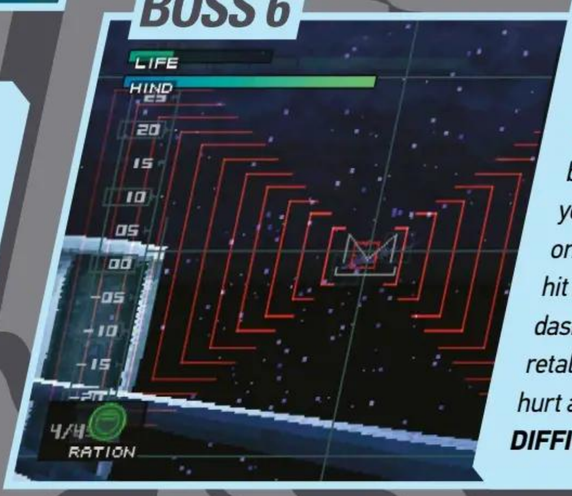
PSYCHO MANTIS

■ *If you've never heard of this boss fight then where have you been hiding since 1998? Mantis is a psychic, and takes control of Meryl to make her try to kill you.*

HOW TO BEAT THEM: *Immediately switch your controller to Port 2 and the rest of the fight should be a doddle. He'll throw all manner of things at you from around the room, but learn the patterns, keep moving and he'll soon topple. It should be a given that you're best off punching Meryl rather than shooting at her – you don't want to kill her.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 6



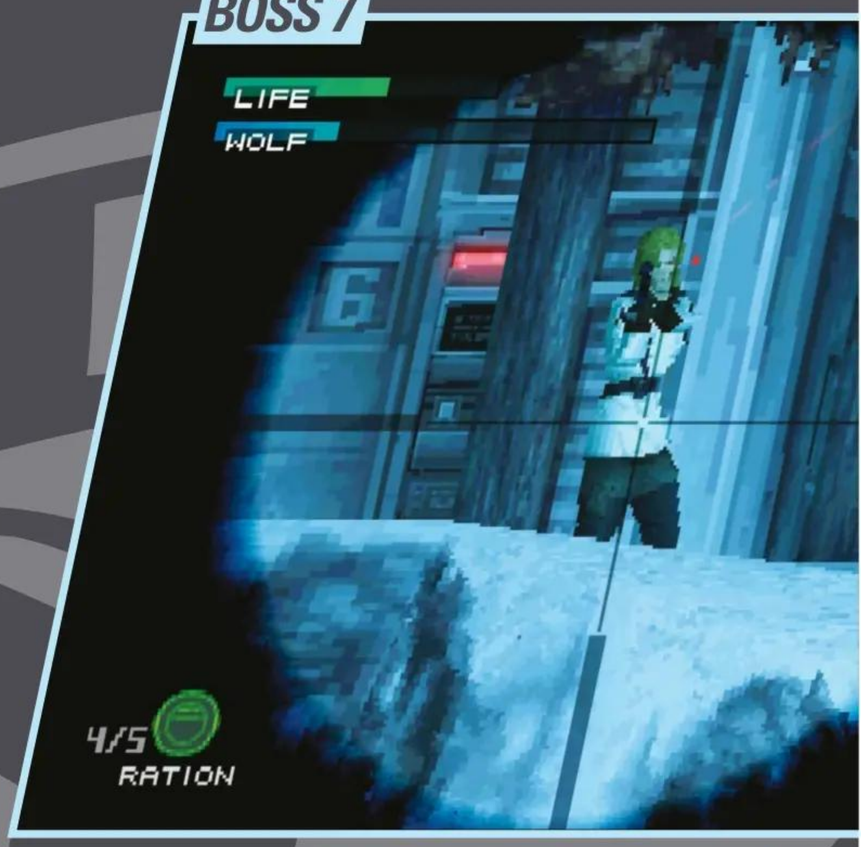
LIQUID SNAKE IN HIND-D

■ *At the top of the longest staircase in videogame history, Liquid Snake attacks you in the Russian gunship you saw earlier.*

HOW TO BEAT THEM: *Use the big block in the middle as cover and trust your radar. As soon as you've locked on to the helicopter with your Stinger, hit Square, then R1 to un-equip and dash behind cover, as Liquid is sure to retaliate immediately. The heatseekers hurt a lot, so be sure to grab cover.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 7



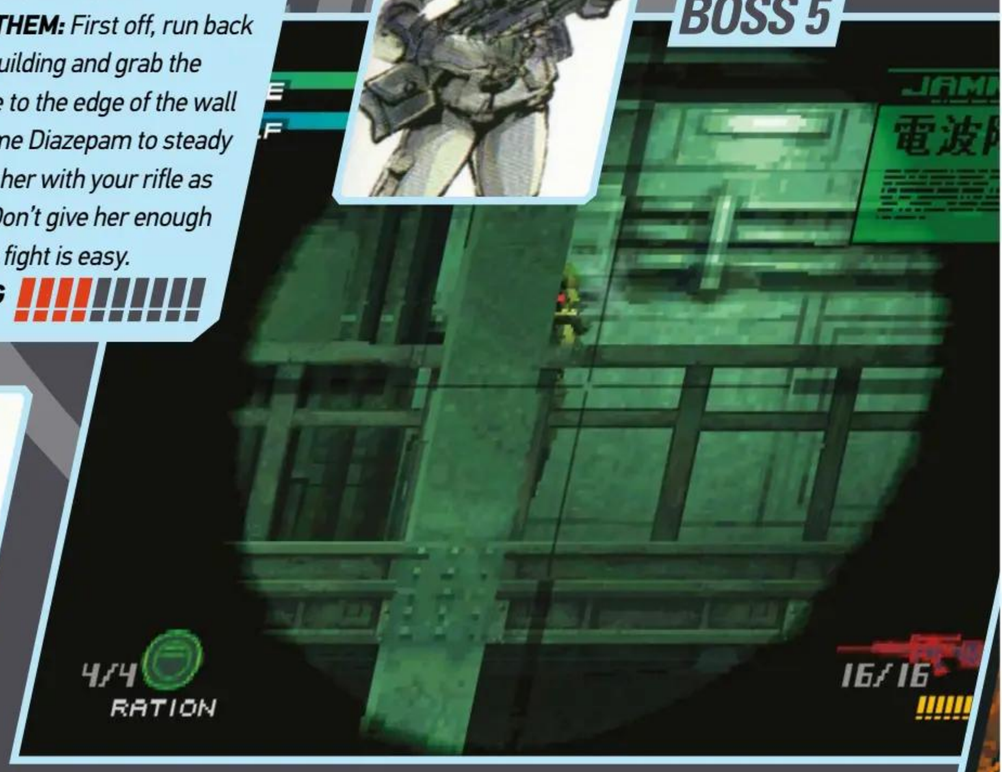
SNIPER WOLF (PART 1)

■ *After defeating Mantis and making your way past some wolves, you reach a long passageway. At the end of this passage lies Sniper Wolf, who very quickly makes herself known.*

HOW TO BEAT THEM: *First off, run back to B2 in the first building and grab the PSG-1. Lie as close to the edge of the wall as you can, pop some Diazepam to steady your aim and follow her with your rifle as closely as possible. Don't give her enough time to shoot and this fight is easy.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 5



» This famous scene was reworked for *MGS2*. Despite its humour, *Metal Gear* isn't for kids.

▶ save the bloody game and Mei Ling just *won't shut up*. It's an intricate balance between action, stealth and the occasional smirk that works so well, when on paper it sounds like it shouldn't. Perhaps the most cited moments in the game are when the fourth wall does, in fact, come crashing down, It almost feels like a waste of time mentioning the Psycho Mantis encounter in the game's first act, as you'd have to have been living under the sea since 1998 to not have heard about his ability to read your memory card, to make your controller vibrate and the fact that you needed to swap your pad to Port 2 to beat him. This is the sort of quirkiness that seems to be missing from modern games. It's still surprising just how effortlessly the mood switches from self-knowing to hard-nosed, for instance when Revolver Ocelot tells you to mash Circle and not to use a Turbo controller or he'll know, before ruthlessly electrocuting you.

But the most important to *MGS* is that no other game could hold a torch to it back in 1998, and the main reason that Kojima succeeded in his goal to create a videogame that was as close to being a movie as possible, was *Metal Gear Solid*'s proclivity for drama. Every stab of the orchestra, every conversation beat and every set-piece was superbly executed and still draw you in now. It's a bit cheesy, sure, but after a few hours in front of *Metal Gear Solid* it's hard not to find yourself completely engrossed. ✱

» This enjoyable remake adds *Metal Gear Solid 2* play mechanics to the mix.

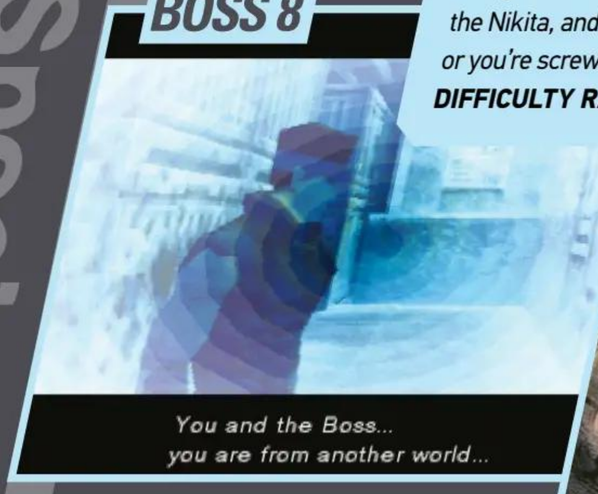
SNIPER WOLF (PART 2)

■ *Soon after you've downed the chopper, Sniper Wolf returns as promised, firing at you from across a barren, blizzard-stricken plain.*

HOW TO BEAT THEM: *As long as you can keep her in your sights at all times there's no real excuse for losing this fight. Her shots hurt a lot, but if you're being alert then you can pretty much lie still and fire as soon as she pops her head out.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 8



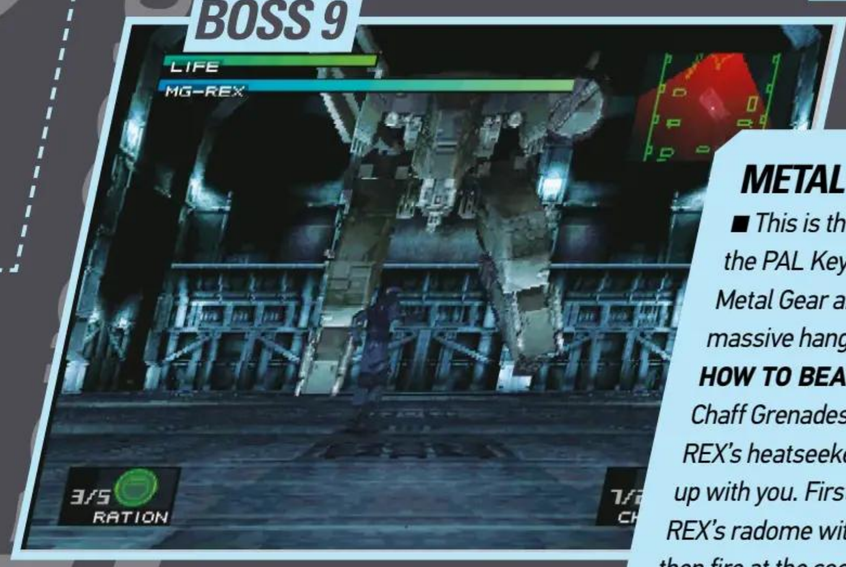
VULCAN RAVEN

■ *Upon reaching cold storage, Vulcan Raven returns to do battle in the company of an enormous minigun that he's taken off a fighter jet.*

HOW TO BEAT THEM: *This fight can be tricky as Raven can see further than any other enemy in the game and simply cannot be engaged head on or you'll die very quickly. Watch the radar and get behind him with the Stinger or the Nikita, and keep moving at all times or you're screwed.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 9



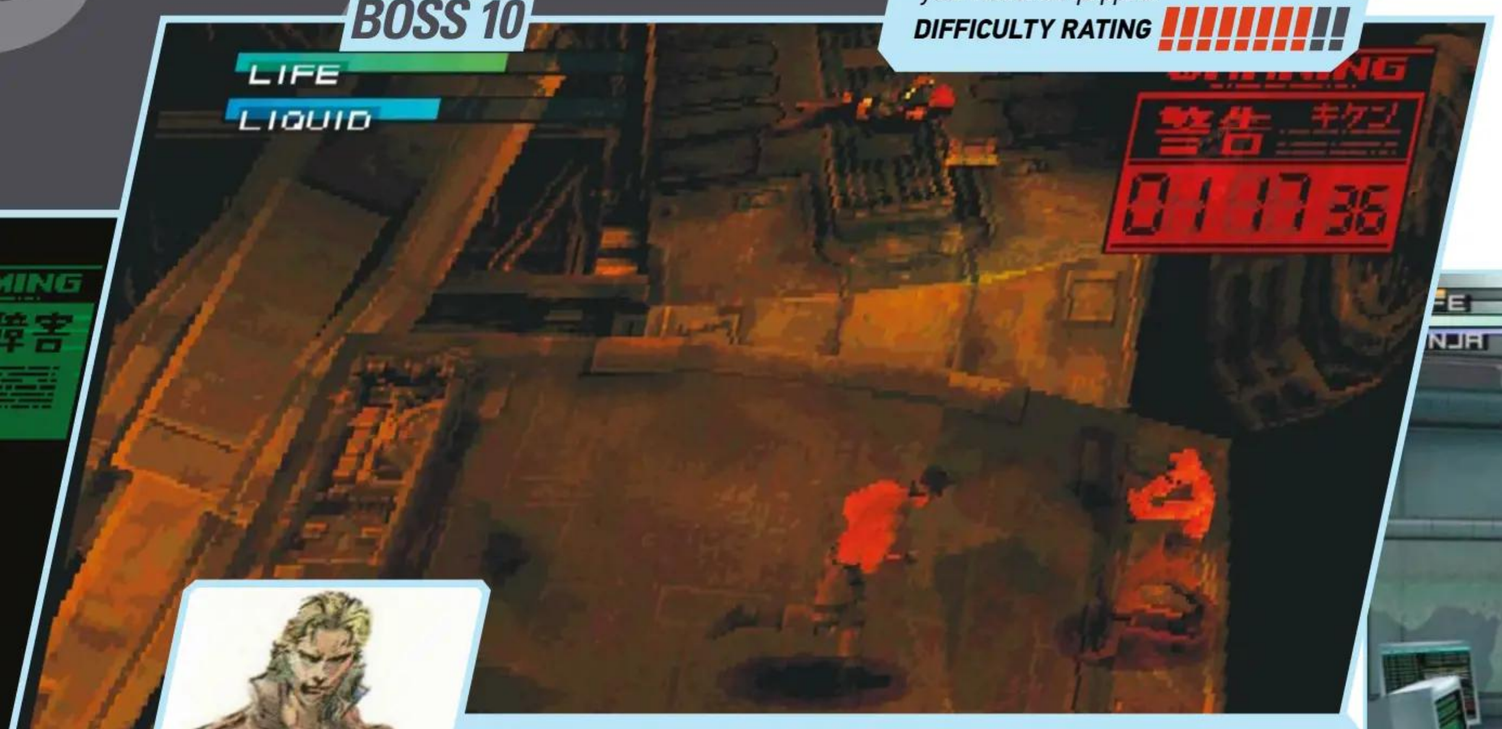
METAL GEAR REX

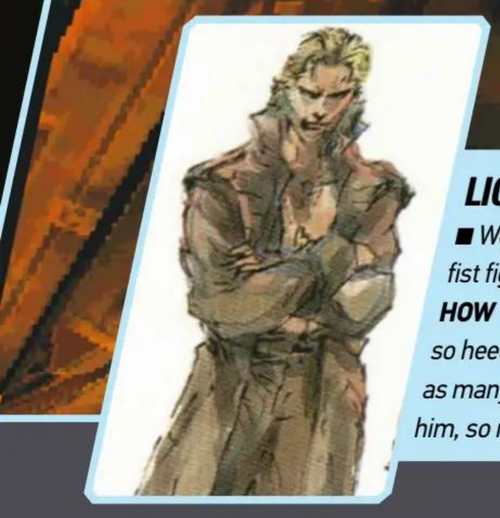
■ *This is the big one. After entering the PAL Key, Liquid Snake activates Metal Gear and attacks you with it in a massive hangar.*

HOW TO BEAT THEM: *Keep throwing Chaff Grenades at all times – this way REX's heatseekers will struggle to keep up with you. First you need to disable REX's radome with the Stinger, and then fire at the cockpit in the second half of the fight. Keep moving and keep your Rations equipped!*

DIFFICULTY RATING !!!!!!!!!!

BOSS 10





LIQUID SNAKE

■ *We'd argue that this is one of the greatest showdowns of all time – a bare-knuckle fist fight between two brothers on top of a massive robot. Incredible.*

HOW TO BEAT THEM: *Liquid is kind enough to tell you to stay away from the edges, so heed his advice. Other than that, it's best to just keep moving around and throw in as many punch-punch-kick combos as possible – you don't have much time to beat him, so make each combo count.* ***DIFFICULTY RATING*** !!!!!!!!!!

HALO COMBAT EVOLVED™

Halo was the game that changed a genre and helped Microsoft gain a foothold in the industry. Adam Barnes delves into how the evolutionary shooter was made

IN THE KNOW

» **PUBLISHER:** MICROSOFT

» **DEVELOPER:** BUNGIE

» **RELEASED:** 2001

» **PLATFORM:** XBOX

» **GENRE:** FIRST-PERSON SHOOTER

When you think of *Halo* you think of multiplayer FPS and the importance of narrative in a game's campaign – both very *modern* concepts. Indeed, the franchise modernised the FPS genre, leading to radical changes in the approach of rival series. So when a game is notorious for being 'modern', for being 'fresh', it's hardly a surprise that you forget quite how *old* it really is. The original *Halo* debuted some 13 years ago, so we're stepping back to remember just how it managed to revolutionise a genre.

The irony, however, is that *Halo* wasn't born out of an intent to innovate shooters; in fact, it didn't even begin life as an FPS. "We were in preproduction for over two years, starting back in 1999," says Marcus Lehto, art director on *Halo: Combat Evolved* and the only developer to begin work on the game alongside Bungie co-founder Jason Jones. "The initial beginnings of *Halo* started out using *Myth: The Fallen Lord*'s engine and it was a truly open-world exploration game. Big, big, huge worlds; a block of islands that you could travel to. It was a top-down, *Commando* 'lead your troops from the sky' type of thing." Though Bungie had already cut its teeth in both the RTS and FPS genres with *Myth* (1997) and *Marathon* (1993) respectively, it was still a fairly small-scale developer. Yet in spite of this relative obscurity the project was kept completely under wraps, even internally. "In those early days there was a ton of secrecy around *Halo*," reveals Michael Evans, who would later become *Halo*'s lead multiplayer designer after shipping *Oni*. "I can't remember ever seeing an internal build of the RTS or the third-person version of the game. I do recall playing a really early version of multiplayer which was just on rolling hills; I am not sure if there was even a game mode back then. A very early piece of *Halo* trivia is that there was a build where one designer's head was much larger, to make him easier to headshot."

In time the *Halo* team grew and what became apparent was the connection between the player, the world and how it was meant to be explored. The sense of openness and freedom had been a core concept for the game from the beginning, and a top-down view was just not going to work. "So we converted part of that game prototype into a third-person shooter," states Marcus, "and it lived as a third-person shooter for some time. It was really interesting, even at that early time, but it quickly became apparent for those early days that the kind of control and the kind of connect that we needed from a player perspective needed to be in first-person."

It was around this time that Microsoft began to get involved with Halo; Microsoft was gearing up for the release of its debut Xbox console and it needed games. Interestingly though, Halo was originally scheduled to release on PC and Mac simultaneously – a fact that had been so important to Apple and its newfound approach to gaming at the time that Steve Jobs announced the news at the 1999 Macworld conference. However, Microsoft was so interested in Halo, so keen on the importance it could have for its newcomer console, that the firm bought Bungie in June 2000. "I think internally by and large we just wanted to make games," recalls Michael, "and the Xbox was very exciting for PC game developers. There were some ▶

» Marcus Lehto worked on *Halo: Combat Evolved* as its art director. He now works for V1 Interactive.

» *Halo* wasn't the first game to create unique enemies that fought in different ways, but the way they each changed how you yourself battled them was new.

> **"Halo was a top-down, Commando 'lead your troops from the sky' type of thing"**
> Marcus Lehto

» The story of the Halo ring and its ultimate use is surprisingly compelling, building upon the mystery of the Covenant, the Forerunner and the religious imagery.

MAKING THE MASTER

Marcus Lehto on the evolution of a gaming icon

"He went through quite a bit of iteration in his early days," says Marcus Lehto of Master Chief's design. "I created the Master Chief, the Warthogs, the Pelican, the Halo ring, everything. It was really fun, initially, to build these things that became a kind of iconic fixture of the universe." John-117, to give him his real name, began life as a super-soldier ideal, even back when *Halo* was planned as an RTS. Marcus describes the Chief as originally being little more than a ubiquitous armoured character who "clearly didn't have any flavour whatsoever". Then Master Chief became more akin to an "anime-style" character, but even then was still "too slender, too feminine". Marcus decided then to "combine a human being with a tank". The armour expanded, the helmet became a bigger design focus and Marcus brought a more utilitarian approach to how the Chief should look. "You want to make something that players can connect with," says Marcus, "and when they believe it works, there's a suspension of disbelief when it comes to playing the game."

» The Warthog is perhaps one of the most iconic vehicles in gaming; unsurprising when its unruly handling makes for many a memorable moment.

▶ people who left and some people who Microsoft decided not to take on – often I think foolishly. After the Microsoft deal, the Myth and Halo teams moved to Redmond." Though the acquisition was an appealing one for Bungie, none there could have predicted the effect it would have had on the aesthetic of Halo – a factor that would become key to its design. "[Microsoft] flew all of Chicago out to the Pacific northwest to the Seattle area," adds Marcus. "We were struck by the amazing beauty of the cascade mountains, the ocean, all of the peninsula to explore and that massively influenced the landscapes of Halo: the exploration value of it, the sheer cliff walls, the big waterfalls and all of that kind of thing." The change in scenery also influenced the freedom to explore in the game. "We felt that [Halo] provided a really unique sense of freedom for the player. Putting them into what is equivalent to a giant national park, for all intents and purposes, and allowing the player to free-roam and explore this giant natural wonderland that was the terrain of Halo." This freedom had as much effect on the gameplay as it did its visual design. "It was funny how that kind of worked," says Jaime Griesemer, one of the key designers. "I think the open environments came before the open shoot design, if that makes sense. So we had these environments that we wanted to build that had lots of multiple paths and these big, wide-open areas – because we could do that for the first time really in a shooter – and we had to work out what that meant for our mission design. It wasn't the opposite way where we were like 'oh we want to have these free-form missions where

» Every weapon had its pros and cons, a necessary balance if restricting players to two weapons at a time.

you can do things in any order'. It was sort of forced on us by the fact that we had this environment and we can't constrain what order you go through things, so we're just going to have to make it work."

This sense of scale and exploration was something of a revelation for the genre, which at the time largely comprised two categories: enemy-packed kill rooms, like in *Doom*, or more linear, corridor-led games such as *GoldenEye 64* or *Medal Of Honor*. As a result, the game's name was important. It was Microsoft that later added the subtitle 'Combat Evolved' to *Halo* as part of a marketing decision to help it stand out from other military shooters, a theme that was becoming particularly popular on the PlayStation. Whether it worked as a marketing exercise it's hard to say, but what isn't is how key this free-form method of gameplay was to *Halo*'s success – it felt brand new. Of course, alongside its more open environment and gameplay design came other issues, such as how to create enemies capable of tackling any number of potential combat actions. "We couldn't script an AI in this open environment that will be responsive and be able to react to all the different situations the player can create," says Jaime, adding that Bungie had to "write an AI that can actually behaviourally be able to deal with all the situations".

The inclusion of a regenerating shield, too, spun the genre on its head – a feature that has sadly spiralled out of control in modern-day shooters where you'll spend most of the game cowering behind concrete blocks. Then there was the limit of only two weapons, adding to the free-form gameplay and creating a strategic element to proceedings. "I think the main goal with the Chief as a character was that he sort of always has the ability to use the tools that he has at his disposal well enough to accomplish his objectives," says Jaime. "So you don't always get to choose what weapon you're gonna have, you don't always get to choose what vehicle you're gonna get, but the Chief is just so incredibly competent at everything that you're going to be able to use whatever tool you can scrounge up that you're going to be able to overcome whatever fight you're in." But what is interesting is how this design choice was just as much due to the restrictions of moving from PC to console as it was a gameplay factor: "You don't have an

GAME CHANGERS

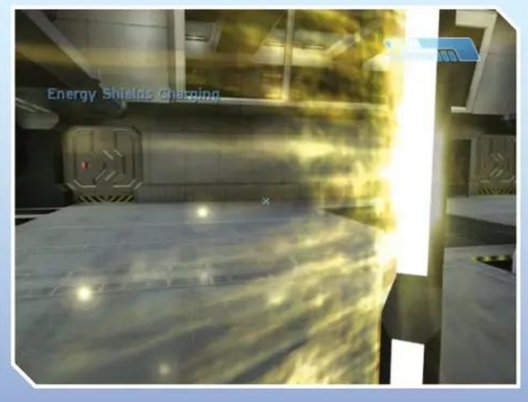
Why Halo stood apart from everything else

OPEN ENVIRONMENTS

■ The freedom that *Halo* enabled in its combat gameplay was its core concept. For the first time, Bungie had the necessary power to build such a sense of exploration into a shooter, and this remained the central pedestal which the game was designed around.

LIMITED WEAPON LOADOUTS

■ At the time it was commonplace for FPS games to simply add and add to your arsenal of weaponry. With its open-ended sense of place, *Halo* also brought along a strategic sense to the combat by limiting Master Chief to only two weapons at a time.

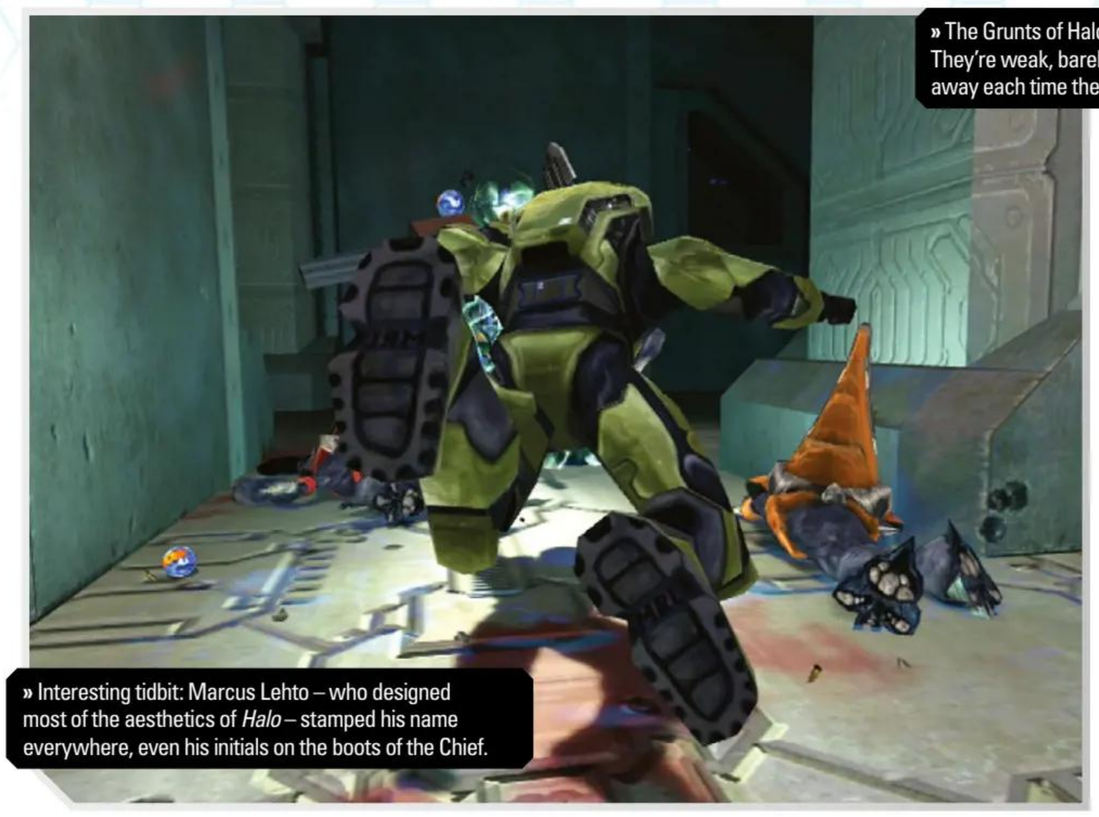


REGENERATING SHIELD

■ Master Chief's regenerating shield perhaps doesn't seem like such an unusual concept today, but *Halo* was the first game in the FPS genre to employ such an idea and it dramatically changed the way not only *Halo* was played, but future shooters too.

CONSOLE MULTIPLAYER GAMING

■ While Microsoft would continue to push this particular avenue for years to come, the popularity of *Halo*'s multiplayer – even without a working Xbox Live system – set a precedent for what needed to be done for console multiplayer.



» Interesting tidbit: Marcus Lehto – who designed most of the aesthetics of *Halo* – stamped his name everywhere, even his initials on the boots of the Chief.

» The Grunts of Halo, aka Unggoy, are its most memorable enemies. They're weak, barely a threat, but almost cute in the way they run away each time the bigger soldiers are killed.

» A HD revision was released in 2011, and *Halo* was included in the *Master Chief Collection* for Xbox One.

> **"I think Halo wasn't [as much] an innovation in first-person shooters, but more of an almost simplification or purification of the genre"**
>
> Jaime Griesemer

entire row of number keys to switch between multiple weapons, you have at most one button, so we kind of had to limit the number of options you had available. And also one thing that was a big deal at the time was memory, so if we could let you arbitrarily switch between ten different weapons, what would happen was you would switch to one we didn't have alerted in the memory and so you wouldn't be able to draw anything for a third of a second."

The move from PC to Xbox was a costly one, going from a world of possibilities – at least on a technical level – to one that required overcoming a lot more restrictions and barriers. In many ways, believes Jaime, this move was fruitful to *Halo* in the long term, since it required Bungie to think about the game's design rather than simply expand upon what it had done before. "When you have no outside constraints – and the PC is very much that kind of platform – you just add," claims Jaime. "You just build on what came before. You just do the same thing you did last time but plus one, and you're never forced to cut or limit or restrain yourself and a lot of really good design happens when you run into these arbitrary constraints that you can't change. It lets you get rid of the cruft that builds up. And I think *Halo* wasn't [as much] an innovation in first-person shooters, but more of an almost simplification or purification of the genre."

But where *Halo* really felt important – at least to a generation of students, anyway – was in its multiplayer. Microsoft had designed a forward-looking console, targeting the increasingly popular generation of connected, media-driven consumers, and *Halo* was going to be a core pillar of that through its multiplayer. Xbox Live didn't launch alongside the console, however, and with it the connected multiplayer that *Halo* was originally built for. "There was some political conflict over *Halo* networking back then," says Michael. "A small group of guys on the Xbox side of the fence thought it was a bad idea to have networked games before there was Xbox Live. Then later there was a desire to support automatic networking only – ie you would become a server if nobody else was on the network and if there was a server you would just auto-join it. We really thought that the game would be awesome in college dorms." And it was. The decision to include a LAN setup arguably made *Halo* stand out, especially among students. Sony had already brought gaming out of the bedroom and into the living room with the PlayStation, and *Halo* grasped onto that idea. With hours dedicated to deathmatches or alongside team-mates in co-op, it was brought to the very forefront of these new, modern gamers – and word spread. Michael admits that much of the content associated with *Halo*'s original multiplayer was contract work, however, including the likes of Chris Carney who now still works at Bungie to this day. While internal designers got stuck in with map and mode creation where they could, the majority of multiplayer was made by outside hands. Its foundation, then, relied entirely on those solid gunplay mechanics, but it was clear soon after *Halo*'s release that this would be its legacy. "I think we were all true believers," says Michael, claiming the entire team knew it had made something very special. "The long-lasting legacy of the game has been a pleasant surprise as well," he adds.

And while it's no doubt been a surprise to those who worked on it, it's quite easy to understand the long-term impact Bungie's game has had. ✱

DEVELOPER HIGHLIGHTS

MARATHON
SYSTEM: MAC, PC
YEAR: 1993

MYTH: THE FALLEN LORD
SYSTEM: MAC, PC
YEAR: 1997

ONI (PICTURED)
SYSTEM: MAC, PC, PS2
YEAR: 2001

ADAPTIVE AI

■ Though Bungie isn't the first developer to be praised for its artificial intelligence, it deserves as much credit as we can muster for managing to create such a dynamic set of enemy and allied combat routines to work so well in these large-scale open environments.

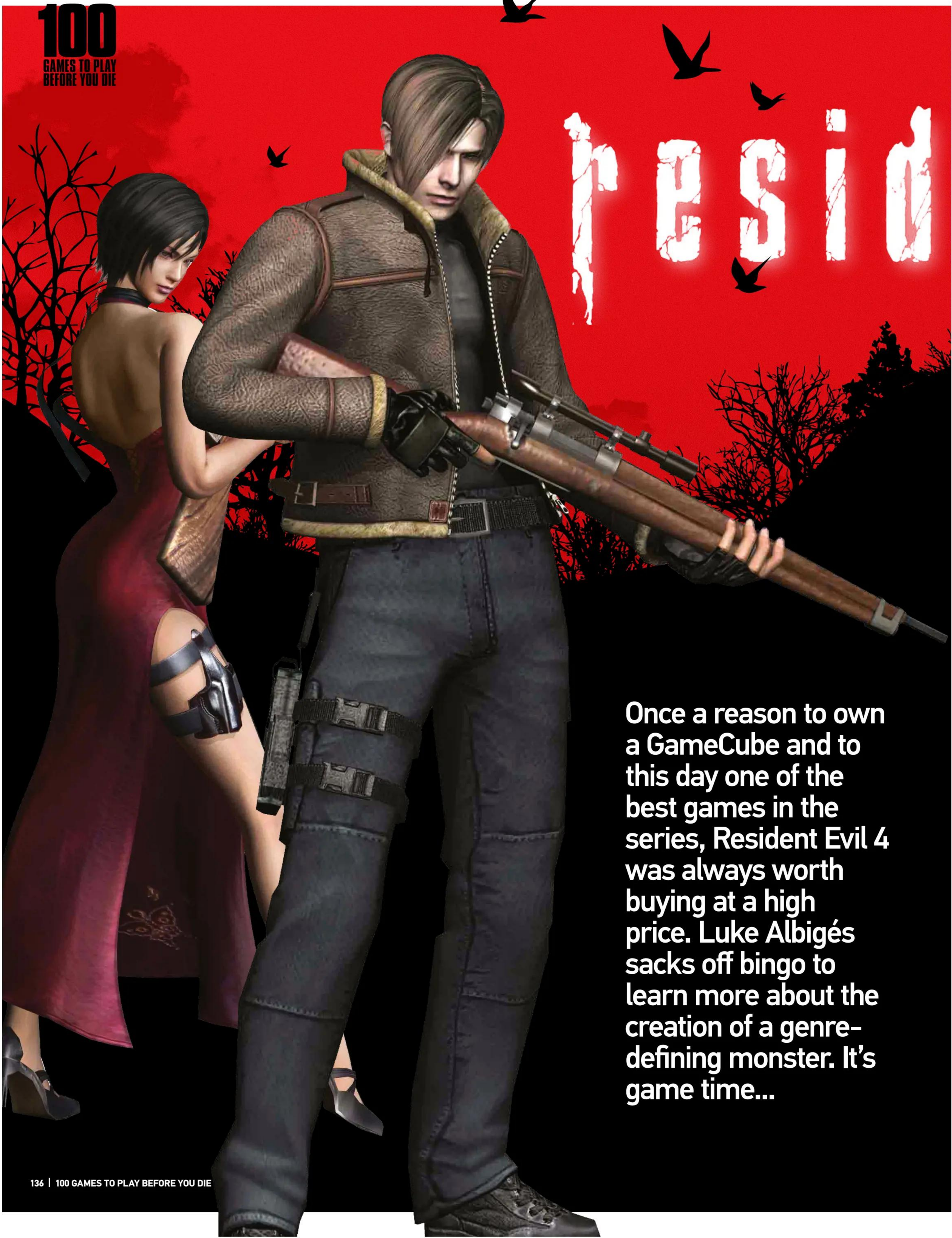
ADDING IN A STORY

■ The world that was built for *Halo* is rich with lore, but the way it is expertly told in piecemeal form – rather than in cumbersome inter-level breaks with long cut-scenes – helps tie it all together in a way that few games had done as well at the time.

CONSOLE CONTROLS

■ FPS games weren't as common on consoles as they were on PC, and when they did occur there were often compromises (such as *GoldenEye*'s separate aiming reticle). *Halo* was designed with the controller in mind, and changed the way FPS games were played on console.

resid



Once a reason to own a GameCube and to this day one of the best games in the series, Resident Evil 4 was always worth buying at a high price. Luke Albigés sacks off bingo to learn more about the creation of a genre-defining monster. It's game time...

evil

Oddly, the best thing about *Resident Evil 4* is that it isn't really a *Resident Evil* game. With the established survival horror formula perfected by three PlayStation games and several spin-offs, both the development team and fans wanted something new, something different, something challenging. This didn't come easily for Capcom, with the team exploring supernatural elements and the paranormal in early development as workarounds to the growing zombie fatigue, but it's hard to argue that the final product wasn't worth the wait. Eschewing static camera angles for an over-the-shoulder affair that quickly became the staple for third-person shooters and leaving the brain-munching idiots to rot in order to let a parasite-ridden populous take centre stage, this was no longer survival horror – it was survival *terror*.

It's a subtle differeance in terms of language, sure, but it's an important distinction to make. *Resi*'s foundations were in classic B-movies and horror films – static cameras allowed for staged scares and classic cinematography techniques, the action contained and controlled by the director at all times. While elements of horror and certain tropes remained in *RE4*, they were no longer the be-all and end-all and the fear of stumbling into a small army of villagers armed with rudimentary tools or just one obvious threat (the likes of mini-bosses Dr Salvatore and El Gigante reminiscent of stalking threats Mr X and Nemesis in previous games) without the provisions or skills to see the task through proved genuinely terrifying. Horror is a jump scare around the next corner when the cameraman decides to reveal it; terror is finding yourself out of your depth only to hear the ominous revving of a chainsaw nearby. See? There's a difference, alright…

"Our focus was on creating something completely new with *Resident Evil 4* and pushing the series in a new direction," explains producer Hiroyuki Kobayashi. "In the course of development, we created prototypes and tested them out – if we weren't satisfied with them, we started from scratch. In the end, we went through four different versions of the game before settling on the direction in which we wanted to go." Psychological horror was then still very much *Silent Hill*'s domain, while the paranormal stuff Capcom tried sort of went against the grain of a series grounded in its own hokey science with various strains of virus, yet trying typical zombies only made the game feel stale and familiar. "By that point in the series, zombies were simply no longer scary to players," Kobayashi confirms. "They had become cannon fodder that you could defeat with ease. We wanted something not like the enemies you'd seen before that would bring back the sense of the unfamiliar and the frightening, and that was the genesis of Los Ganados."

The parasite-based nature of these new definitely-not-zombie enemies was the light bulb moment Capcom had been waiting for. As well as granting full creative freedom to go nuts with new and inventive enemy types – from mutated bugs that had been exposed to the parasite to once-human hosts with an aptitude for (or lack thereof) these powerful parasitic friends – it also managed to tie into the existing lore as a new line of biological weapon experiments, ticking every box while still ▶

RESIDENT EVIL 4 101

■ Capcom's fourth *Resident Evil* release was a game-changer, reinventing both the franchise and the genre forever. Leon S. Kennedy returns and must battle all sorts of enemies as he searches for the President's daughter in a remote European location. It's a stunning action game and Shinji Mikami's finest work.

IN THE KNOW

» **PUBLISHER:** Capcom
» **DEVELOPER:** Capcom Production Studio 4
» **RELEASED:** 2005
» **PLATFORM:** Various
» **GENRE:** Action

» Take the chainsaw dude out quickly or you'll suffer a very gruesome death.

» Even today, *Resi 4* remains one of the best looking games on Nintendo's console.

» Leon's tense battle with Krauser remains one of the best QTEs we've ever seen.

CONVERSION CAPERS The best and worst versions of Capcom's classic

PS2

■ While much was initially made of *RE4*'s GameCube exclusivity, it wasn't long before the game appeared on the significantly more popular PS2... and with additional content that wasn't in the GC original, as the ultimate kick in the teeth for the Nintendo faithful.

Wii

■ Regarded as the definitive version of *Resi 4*, thanks to motion controls which added to (rather than detracted from, as was often the case) the action. With the best visuals, the best controls and all of the content included, this remains the best way to enjoy this all-time classic.

PC

■ Launching without mouse support is a sure-fire way to piss off the 'Master Race', and the weak port didn't help matters – PC hardware could do better and PC players expected better. Many will have missed out on a great game or simply played it on console instead.

HD

■ Capcom hasn't exactly been on-point with its HD remaster game – *DMC* was passable, *REmake* a little better but this was not the loving makeover *Resi 4* deserved. If everything is going to look muddy anyway, why wouldn't you just stick with the Wii version?

» The laser sight of your gun allows you to pick of individual body parts.

DEVELOPER HIGHLIGHTS

VIEWTIFUL JOE
SYSTEM: VARIOUS
YEAR: 2003

P.N.03
SYSTEM: GAMECUBE
YEAR: 2003

KILLER7 (PICTURED)
SYSTEM: VARIOUS
YEAR: 2005

» This nightmare is terrifying and requires lots of bullets to put down.

» Mercenaries was an excellent minigame and is in most later games now.

» The weapons of *Resi 4* are amazingly satisfying to use and occasionally messy too.

» The sniper rifle becomes especially useful for when you have to protect Ashley.

scrubbing the slate clean for a whole new roster of horrible foes and challenges to overcome.

The shift of premise was necessary in order to avoid burning fans out on zombies, but the switch to more action-centric gameplay was a little less expected. "We took a look at games that were popular in the western market at the time, around 2005, and it was clear to us that games which let you aim and shoot with precision in that third-person style were the way to go," reveals Kobayashi. Many thought this shooter pandering was the downfall of the ill-received *Resident Evil 5*, but it turns out the wheels were already in motion to develop greater interest in the western market a full decade ago. Granted, later sequels have had a tendency to stride boldly into full-on shooter territory where *Resi 4* merely had a bit of a paddle (be careful of Del Lago, guys...) but still, if you want to point fingers and name a culprit for the recent action bent, you'll only find yourself prosecuting one of the greatest games ever made.

It's all too easy to take great game design for granted, and even from the various pre-release builds of the game, you can really get a feel for just how many different camera placements the team must have gone through before settling on the version that shipped. Beta footages shows a hybrid of fixed and aim-based cameras, while you can see various heights, depths and angles that all offer different takes on the action in that early footage. "Getting the position of the camera behind the player just right was a very arduous process of refinement," Kobayashi admits. "It's just one part of the game but you really need to nail it as it influences every other aspect of the gameplay." Ever since, we've played countless third-person games where the camera just feels 'off' in a way that's hard to describe – too floaty, perhaps, just slightly too far away or maybe too stiffly attached to athe player character – which just adds more weight to the argument that *Resi 4* did this better than pretty much all games that had come before and indeed many since. Way to go, Capcom.

> **"It was clear to us that games which let you aim and shoot with precision were the way to go"**
> Hiroyuki Kobayashi

There were other challenges ahead of the team due to the quicker pace of the game, too. Players would quickly grow used to enjoying huge-scale encounters (either in terms of enemy numbers or sheer size) and where the tension of the original games allowed for minimal enemy placement for maximum effect (thus slowing the rate at which players could adapt to each enemy), having them appear in bigger groups and more frequently meant that something had to be done to avoid having people feel they had mastered a new enemy type in a matter of minutes. When pressed for the greatest design challenge during development of this game, in fact, Kobayashi cites this exact issue as the main hurdle in the game's development. "Probably the process of working out what kind of creatures should show up in the second half of the game," he confirms. "By that point you've become more accustomed to Ganados so keeping things interesting while remaining true to the atmosphere of the game is a difficult balance."

Capcom clearly had its fair share of challenges in steering the franchise in this bold new direction, so it's interesting how the team decided to pass these onto the player. One such example of this is the inventory system – gone is the simplistic small grid where every item, regardless of bulk or weight, takes up one slot, replaced by a much larger grid in the form of the upgradeable attache case, where item size determines how many 'blocks' it takes up. The existing system for micromanaging your inventory had become stale and overly simple by this point (just take an Ink Ribbon, a healing item, your primary weapon and some reserve ammo, leaving room for ferrying puzzle items around) but this ingenious new mechanic made us think about what we were carrying and why, becoming almost a mini-game in its own right. "Funnily enough, Tetris was the inspiration," Kobayashi laughs. "I thought it would be fun if you had to play a puzzle game where you tried to fit the pieces in together as best you could without any gaps to maximise efficiency."

THE CAPCOM FIVE

The quintet that defined the GameCube for Capcom

P.N.03

■ We're rather fond of the first of Capcom's planned quintet as it plays like an old school shoot-'em-up. Not everyone was pleased however, with some feeling Capcom rushed to get it out before the end of the financial year and that it suffered as a result. Mikami's later work on *Vanquish* serves to show what could have been had Vanessa's ill-fated adventure been allowed a little more time in the oven...

VIEWTIFUL JOE

■ This unapologetically hardcore platform-brawler succeeded on many levels – bringing back a long-dead genre, adding another amazing character to Capcom's star-studded roster and delivering a game that turned an obvious gimmick into an excellent core gameplay pillar. It wasn't huge but multiple sequels and Joe's inclusion in *Marvel Vs Capcom 3* prove that there's a lot of love for this game.

RESIDENT EVIL 4

■ A stunning reinvention of the horror series, nay genre, it'd be hard to argue against *RE4* being the highlight of the Capcom Five. GameCube's best-looking game at the time and a peerless lesson in how to rejuvenate a franchise, this is deserving of its classic status and could easily be argued to be the game of its generation. Yes, even without Barry Burton. We don't understand it either.

kILLER7

■ Stylish, confusing, controversial, divisive, just plain weird... *killer7* is all of these things and then some. Combining light puzzle-solving with on-rails shooter elements across seven different playable characters, *killer7* is one of the most original and inventive games ever green-lit by a major publisher. You'll either love it or hate it, but you'll need to play it to know which camp you fall into...

DEAD PHOENIX

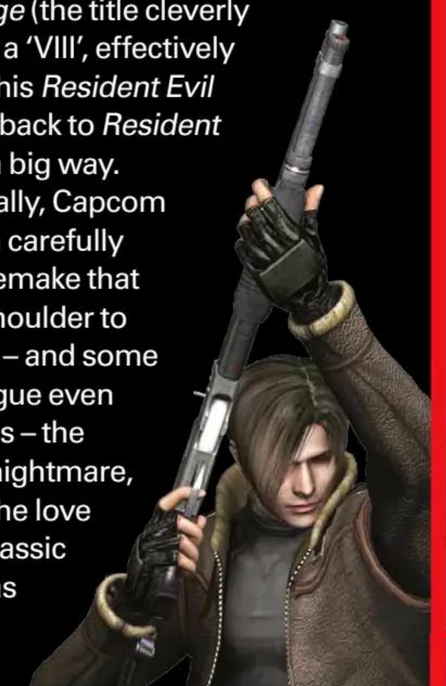
■ Sadly, the Capcom Five will never be completed – this *Panzer Dragoon*-esque shooter was canceled prior to release. It wasn't all that difficult to see this coming, to be fair – the other four games had a lot of pre-launch build-up (including early versions being shown that were quite different to what we actually got), while only a handful of screens exist for this doomed shooter.

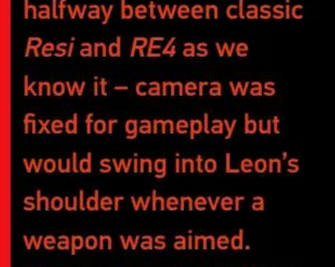
While it might be one of the all-time greats, however, Resi 4 still **has a lot to answer for. Its use of** QTEs – which Capcom managed to employ to great effect – became something of a touchstone for other developers looking for an easy way to incorporate cinematic events into their games without fully wresting control away from the player, but few managed to pull them off nearly as well. Their proliferation across games of all kinds quickly made players come to hate them, although Capcom's execution of them was generally masterful – just as jump scares could once hide around any corner, QTEs instead tied into the new emphasis on terror. Mashing buttons to run away from a collapsing pillar, for instance, wouldn't have been nearly so intense if all you had to do was just hold down on the analog stick for a bit, and never knowing when that prompt would appear left you clinging to your controller at all times, just in case.

QTEs also formed the backbone of one of the game's most memorable encounters – the knife fight with Krauser towards the end relied heavily on prompted inputs (and is Kobayashi's favourite battle in the game – "I really like the boss fight against Jack Krauser. His knife moves were so cool!" he enthuses), allowing the battle to build way more tension than it could have managed within the confines of traditional control. That's the reason games like those made by Quantic Dream (*Heavy Rain*) continue to employ such mechanics so heavily, as it leaves players free to focus on action and narrative until such a time as they are called upon to take action. They're also used to decent effect in Telltale's new twist on the classic point-and-click formula with games like *The Walking Dead*, showcasing how *Resi 4*'s masterclass in QTE use continues to permeate the market and evolve today.

Kobayashi seems delighted that his game is still so revered a decade on and that fans remain vocal enough to land it a spot in our all-time top ten. "It's an incredible honour that makes me very happy indeed," he tells us. "It's been ten years since the game came out, and it's great to see how much the fans have loved the game in that time. In 2016, *Resident Evil* as a series is coming up to its 20th anniversary, and not just me but everyone at Capcom will work hard to keep making great games for our fans to enjoy!" It's fair to say that most *Resi* fans fell off the hype train around the divisive sixth instalment. However, the horror franchise is going through a new golden era, thanks to the excellent *Resident Evil 7* (which offered VR terror), and acclaimed *Resident Evil 2* remake.

The latest game, *Resident Evil Village* (the title cleverly conceals a 'VIII', effectively making this *Resident Evil 8*), harks back to *Resident Evil 4* in a big way. Additionally, Capcom created a carefully crafted remake that stands shoulder to shoulder – and some might argue even surpasses – the original nightmare, making the love for this classic as clear as ever. ✱





RESIDENT EVIL 3.5

There were actually a number of prototypes and demos made for *Resident Evil 4* that were pretty far removed from the game we actually got. The initial announcement trailer for the game was set in a castle, setting up a more gothic tone for what was to be a more traditional survival horror game with fixed camera angles. The next wave of publicity saw another new angle, this time something more psychological. Mechanically, it was halfway between classic *Resi* and *RE4* as we know it – camera was fixed for gameplay but would swing into Leon's shoulder whenever a weapon was aimed. There was reportedly a third dry run that was never shown which reverted to zombie enemies, apparently canned early on for feeling to familiar. In each of these early directions, however, you can see a little bit of the DNA that makes *Resi 4* the classic it is.

SKYRIM™

The fifth game in the long-running Elder Scrolls series has been remade and re-released more than any other in the entire franchise. Why? Because it's one of the deepest, most immersive role-playing games ever made – and it deserves to be played by all

It felt like an aeon had passed between the announcement and launch of Bethesda's latest core *Elder Scrolls* game, *Skyrim*. In reality it was 11 months from confirmation to it being in our hands, but the hype had reached such instant fever pitch it was hard to go a day without talking about the damn thing.

It was going to be the biggest open world, with the most freedom – you could fight against *dragons*! How could any other game possibly compete? How could we sleep easy knowing we still had to wait for *Skyrim* to launch? How could it *possibly* live up to the hype? Well, come November 2011, it... didn't.

There was no way any game could live up to the sheer power of the build up behind *Skyrim*, so it was little surprise we heard detractors and naysayers from its release day – and we still hear them today. But while it wasn't 100 per cent perfect, *Skyrim* still ended up an absolute masterclass in the world of immersive, deep action-RPGs – and we still hear *that* today, too.

Starting out as any other *Elder Scrolls* game does – you're a prisoner and you end up freed – *Skyrim* asks you to customise your character with choices of name, race and looks all factoring in, before setting you loose in the midst of a dragon attack. You see, dragons have returned to *Skyrim* for the first time in ages, and this is bad news for any native of the realm who doesn't want to be set on fire and eaten.

From there your quest begins – visit this person, they can tell you where to go next, the prophecy can be revealed, the power of the dragons can be yours via the dragon's language, you can

» It's not just dragons – vampires became a big part of *Skyrim* thanks to the *Dawnguard* add-on. And yes – you could be one.

Children of Nirn

The playable races of Skyrim

Altmer

■ The high elves, as other races know them, are skilled in magic – as well as arrogance. 'Haughty' is a fair descriptor for the lanky, golden ones.

Argonian

■ Not only are the lizard-like argonians great at lockpicking, their natural immunity to disease and ability to breathe underwater is a great boon for *Skyrim* newbies.

Bosmer

■ Our diminutive forest-dwelling friends, the wood elves are so good at archery they've become a meme in many an online community. Archers are OP, yo.

Breton

■ Powerful magicians, bretons are also able to absorb or resist magical damage thanks to their natural abilities. Unsurprisingly, they're usually mages.

Dunmer

■ Morrowind's natives, the dark elves are proficient in destruction magic – all the better for smiting those who make snide comments about them, which is common.

Imperial

■ The closest to a default human you can get in Skyrim. Based off Romans, imperials have the gift of the gab – as well as increased ability to heal wounds.

Khajiit

■ Nobody trusts a khajiit on Nirn – well, they are gifted at sneaking – but our (sometimes) friendly cat people don't have to be thieves. They're just really good at it.

Nord

■ Give a nord a mace, and they'll be happy. Give a nord a two-handed warhammer, and you'll be their friend for life. Skyrim's natives love a good ruckus.

Orsimer

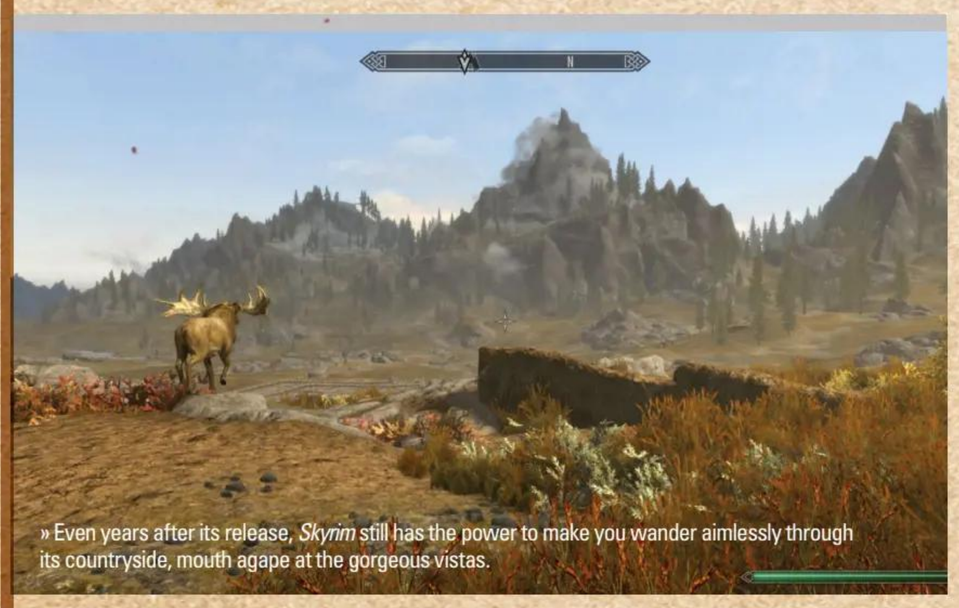
■ Commonly known as orcs, the orsimer's large frames lend themselves to a fine capacity for handling heavy armour. They're not too shabby at the forge, either.

Redguard

■ They're not the biggest, but the redguard are easily the most naturally talented warriors in all of Skyrim – with blade and shield in hand, they're hard to beat.

» Battles with dragons are far more common than you might expect, but they're always good fun. Even if they do get a bit easy towards the end of the game.

» The College of Winterhold is home to some of *Skyrim*'s best quests – but if you enrol as a mage, you won't necessarily be trusted in these lands.



» Even years after its release, *Skyrim* still has the power to make you wander aimlessly through its countryside, mouth agape at the gorgeous vistas.

"The key thing is freedom; freedom to explore, to role-play, and to mod the game into something else entirely"

Nick Pearce

battle against the actual beasts, take a side in a rebellion, and generally save the world in an epic, dozens of hours-long adventure.

What makes *Skyrim* so very special, though, is that you're just as likely to do all of the above as you are to go on a flower-picking escapade, or to learn new recipes for horker stew. The end of the world can wait – we mean, it literally can wait: if you choose not to bother with the main questline, the random dragons prowling the giant world map won't appear and you'll be able to play through the majority of *Skyrim*'s side-quests without being hassled by the gigantic scaly fire-breathers.

In any other game it might have been seen as a negative that some players might immediately lose track of the central plotline and go off to do their own thing. But it's easy to see how Bethesda planned for this – you're not railroaded in a set direction or chided, or hurried on for dawdling. You can take your own time, do your own thing, live your own life, and pickpocket as many innocent farmers as you like.

This freeform approach to playing the game extended into *Skyrim*'s RPG systems – 2006's *Oblivion* had already made steps to make things less rigid, and in *Skyrim* it was even less so. Sure, you could concentrate on one or two sorts of powers, skills, or abilities – but at no point were you ever condemned to having to use them for the length of the game. Don't like how your character plays? Play a different way. Bored of being a bosmer archer? Be a bosmer with a warhammer.

It was layers on layers of freedom for the player, and while this lack of rigidity upset some of the RPG old guard, the fact is most of us fell in love with the opportunity to experiment *Skyrim* put in front of us. And then, as soon as you've learned its systems and explored its world, there's a large core story experience to play through. And it kept on giving.

There were two main stars of *Skyrim*. First, naturally, was the dragons – the once-mythical,

» Enemies are a varied bunch, and you can often stumble upon a seriously challenging foe without any forewarning. Always be prepared for combat encounters.

now-real-and-angry creatures are tameable in a DLC add-on, but for the most part they're a menace. Early on in the game it's a toss-up between whether you'll be beating them down to absorb their soul – being the Dragonborn and all, as you are – or running away with your battleaxe between your legs as they take one too many chunks out of you.

The battles with dragons never stop being fun, and – thanks to *Skyrim*'s incredible orchestral soundtrack – feel like truly epic clashes every single time that they take place. They're also helped along by the fact that they're always taking place in *Skyrim*'s second main star: Skyrim itself. This is a truly beautiful, varied land in the north of Tamriel (the continent on which the *Elder Scrolls* series is set) that could have gone down the lazy path of just being cold and snowy, but it ended up being so much more. That's not to say there isn't much of the white dung on show – your treks through the many mountain peaks of Skyrim will present more than a few blizzards to contend with along the way. But from Solitude to Riften, Markarth to Winterhold, you're always seeing something different: arctic tundra, alpine forests, swamps, rolling meadows; giants tending to their mammoths, sabre-toothed cats hunting stags,

Conversion Capers

Xbox 360

■ While the PC was the superior original version, the 360's *Skyrim* wasn't half bad at all. Like playing the game on a midrange home computer of the day, it ran well, loaded quickly enough and didn't have a habit of destroying hard drive contents. Unlike the PS3's version...

PS3

■ Of the original batch of *Skyrim* releases, it was the PS3 that fared poorest. Owing to the system's tricky architecture, Bethesda wasn't able to produce a flawless port out of the box. In fact, it took a few patches to get the game up to par with PC and Xbox 360.

Special Edition

■ Five years after the original's 2011 release, Bethesda brought out a remaster – complete with 4K resolution textures and other tweaks and requiring the Creation Club for mods to be used. Owners of the PC version received a free upgrade – a nice gesture for existing fans.

Xbox One

■The Special Edition also made its way to the Xbox One, again seeing the first time Bethesda had allowed mods on a console version. Microsoft was more than open to the idea of players creating their own content, so Xbox One mods have seen some huge upgrades, changes and conversions.

PS4

■ A different generation and version of *Skyrim* arrived on PS4, with the *Special Edition* bringing with it the first taste of *Elder Scrolls* mods on console... to an extent. Sony's refusal to allow new assets to be introduced to the game means all mods have to use existing in-game elements.

VR

■ Both PC and PS4 received a virtual reality version of *Skyrim*, and surprisingly it is the full, complete experience. It's unclear just how many people have played through hundreds of hours with a headset on, but there's no doubt the scale of a dragon's scales is seriously impressive up close.

Switch

■ Initially laughed off as a bit of a '*Skyrim* on everything' joke, on release it soon became apparent this was the version a lot of people had been waiting for without even knowing. Adding in *Zelda* loot was a nice touch, but portable *Skyrim* was more than enough of a lure by itself.

» You, the Dragonborn, must put a stop to Alduin The World Eater's efforts to resurrect the dragons.

Best Mods

Immersive Citizens

■ Immersive Citizens fixes one of *Skyrim*'s most notorious issues: unrealistic non-player characters. Improving their AI, the mod makes the regular folk of Skyrim much more like actual people – they run from fights they can't win, have better schedules, even travel from town to town at times. It's small, but essential for immersion.

The Forgotten City

■ An intelligent, smartly written mod that adds a new city full of a new voiced cast, quests, soundtrack and a storyline wrapping it all up very neatly. It even has time travel. When it comes to mods that add something special while remaining utterly faithful to the base game, the Forgotten City is up there with the best.

Enderal: The Shards Of Order

■ A total conversion five years in the making, Enderal is effectively a new game, completely free, that you plaster over the top of *Skyrim*. It offers dozens of hours of questing and exploring, new characters, races, powers and abilities, and offers brand-new graphics, sounds and voice acting.

Falskaar

■ Adding around a quarter of the landmass of vanilla *Skyrim* and about 25 hours of content might seem like a job for a team of at least a dozen. So obviously Falskaar was made by a single 19-year-old – with the help of volunteer voice actors, writers, and some artists/designers, naturally. It is a brilliant mod, and well worth your time.

Stones of Barenziah Quest Markers

■ Some mods create new realms – even new games on top of *Skyrim* – but some of the best mods just fix something. The Stones of Barenziah quest requires you gather 25 gems, without any idea where they are. This mod adds quest markers to them. Cheating? Maybe. Useful? Definitely.

Open Cities Skyrim

■ Open Cities is a mod that brings the feel of *Skyrim* back to that of its precursor *Morrowind* – not by changing a huge amount, but by tearing down walls. It's shocking how much more immersive the world becomes when you can walk in and out of cities without having to travel through a door, and it makes exploration all the more fun.

a babbling brook. It was easy to get lost in Skyrim, even when you knew exactly where you were.

It was also – sometimes – easy to get lost in Skyrim through no fault in your own, or to glitch through the world, or lose a saved game. It's not something that would usually be brought up in a piece like this, but it's fair to say *Skyrim* – just like previous Bethesda titles – had more than its fair share of bugs. But the playful, open nature of the game lent itself to a happier reaction than might have been expected – giants whacking the player hundreds of metres in the air was accepted as funny; flying horses were encouraged as brilliant; and setting a pot on a shopkeeper's head so you could rob them without them seeing a thing was a stroke of genius Bethesda never did bother to fix. It's fair to say that a lot of *Skyrim*'s quirky bugs actually made it an even more memorable experience.

Released in 2011 on PC and consoles of the day, *Skyrim* never did really go away and

“I don’t think any game has ever done ‘freedom’ so well”
Nick Pearce

» The dunmer are native to the island of Morrowind, which is a close neighbour to Skyrim.

has seen re-releases and ports across many platforms in the years following its original launch. It’s testament to the quality of the game, to the depth of experience on offer, and to the sheer replayability of *Skyrim* that every single time it comes out on another format, you’ll find an army of players complaining – because they ‘have to play through it all again’. Quick clue: that’s not a complaint. Nobody actually dislikes playing through *Skyrim.*

For all the volume of its detractors, for all the jokes about remake after remake being released on every format imaginable – plateauing with Bethesda itself cracking a gag about *Skyrim* on Amazon’s Alexa, only to then actually release it on that very format – and for all its genuine, pernickety issues, *Skyrim* is a genuine classic. Its scope, breadth, depth, imagination, and immersion has yet to be beaten and, frankly, there are few other places we’d want to spend as much time. Oh, and you can actually ride the dragons, too – what more could you want?

Meet The Modder

Nick Pearce – creator of the Forgotten City

What do you think is the appeal of *Skyrim*?
The key thing is freedom; freedom to explore, to role-play, and to mod the game into something else entirely. I don’t think any game has ever done ‘freedom’ so well.

And what do you think it is about *Skyrim* that’s made it a legend?
I think because of the immense freedom that the game offers, it can be all things to all people, or near enough. Want to be a hero fighting zombies and dragons? No problem. Want to be a villain skulking about in the shadows? Cool. Want to pick flowers and brew potions and sell them so you can by a house and marry a spouse? You’re catered for. Want to write a narrative adventure game of your own? The Creation Kit’s got you covered.

How has *Skyrim* impacted you on a personal level?
It has changed my life, no doubt. When I started modding *Skyrim* I was working as a legal and strategy advisor to a tech company. It was a good job, but it left me with a lot of unused creative energy, which I started pouring into my passion project in my spare time. After the mod took off and started winning awards, it opened up some really exciting new opportunities I hadn’t expected; I was lucky enough to receive some mentoring from some awesome local developers (League of Geeks), and I landed a grant from the wonderful Film Victoria to set up a studio and develop a new game of my own. So I’ve taken a break from my legal career to pursue those opportunities. It has been fantastic so far.

What’s your favourite area of vanilla *Skyrim*? Why?
I like Falkreath the best, because it’s beautiful; nestled into a picturesque valley among lush trees. I’d be happy to live some place like that IRL, as long as it had fibre internet.

On a broader level, how much impact did modding have to the success of *Skyrim*?
It’s common to see people in forums say that *Skyrim* was broken or incomplete and modders fixed it. I strongly disagree with that. *Skyrim* was awesome on its own; just ask the tens of millions of console players who enjoyed it without mods for many years. Mods certainly increased the freedom and provided an extraordinary stream of new content – and I think this is why *Skyrim* has enjoyed such longevity.

What would you say is your favourite thing about *Skyrim*?
The freedom to role-play your character. Personally, one of my favourite things to do in *Skyrim* is to play permadeath. Using a mod ‘Live Another Life’, I like to start with nothing at a random location, and see how long I can survive on Very Hard difficulty. Knowing that death is permanent for that character makes it really intense and gets the adrenaline going. I recommend it if you haven’t tried it!

» Orsimer – *Elder Scrolls’* orcs – are naturally strong, so they’re good with a two-handed murder stick.

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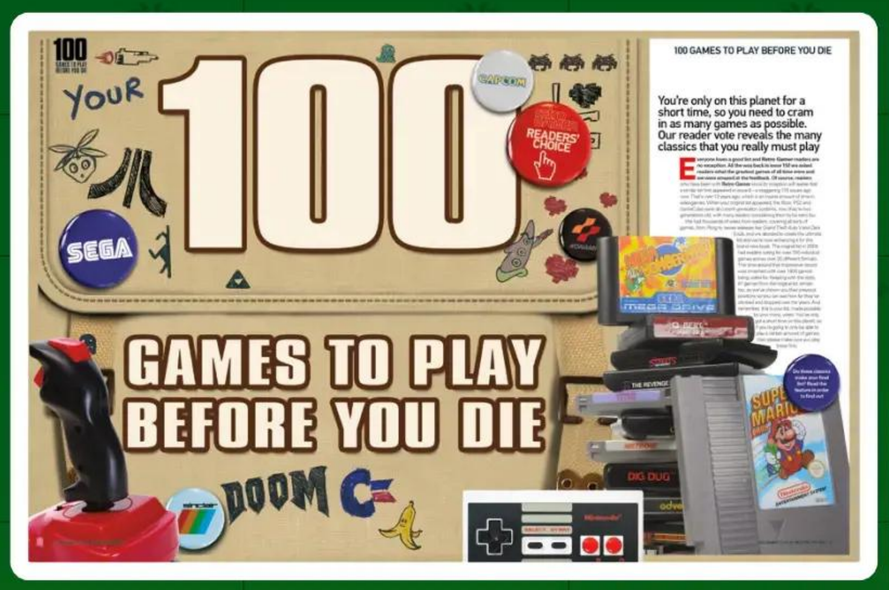
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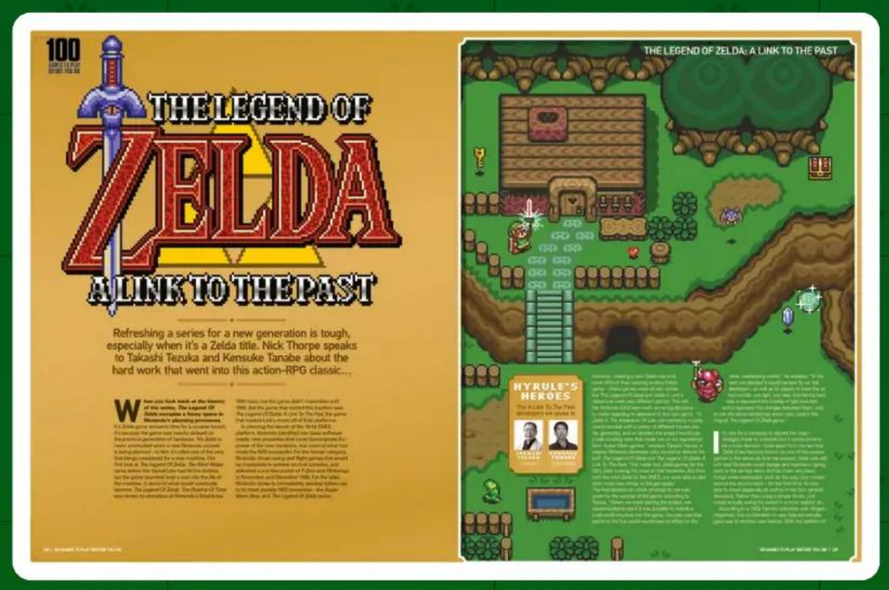
100
THE LEGEND OF ZELDA
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Refreshing a series for a new generation is tough, especially when it's a Zelda title. Nick Thorpe speaks to Takashi Tezuka and Kensuke Tanabe about the hard work that went into this action-RPG classic...
THE LEGEND OF ZELDA: A LINK TO THE PAST
HYRULE'S HEROES

DEVELOPER STORIES

Key members of the games industry explain how hit titles were made

100 GAMES TO PLAY BEFORE YOU DIE
STRONG THE FORCE IS WITH GREG ZESCHUK
52 Star Wars: Knights Of The Old Republic
JON STOODLEY THE PERFECT PLAYER
47 Pac-Man
GOOOOOOOAL!
51 Sensible Soccer
50 Doom II
49 Deus Ex
48 Robotron 2084

EXPERT ANALYSIS

Veteran game-makers give opinions on the greatest games of all time

100
METAL GEAR SOLID
"This was a game that was light years ahead of its time back in 1998"
As the fifth numbered instalment of the franchise hits the shelves, Steve Holmes journeys to Shadow Moses to take a look at the bevy of groundbreaking features that made up one of the most special videogames ever made
METAL GEAR SOLID
Les Enfants Terribles
PIXEL PERFECT

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